



# Aviation Investigation Final Report

<b>Location:</b>	MINNEAPOLIS, Minnesota	<b>Accident Number:</b>	CHI88FA233
<b>Date &amp; Time:</b>	September 9, 1988, 14:14 Local	<b>Registration:</b>	N729RW
<b>Aircraft:</b>	BOEING 727-200	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	71 None
<b>Flight Conducted Under:</b>	Part 121: Air carrier - Scheduled		

## Analysis

AFTER PUSHBACK FROM THE JETWAY, THE AIRPLANE HIT A GROUND HANDLING VEHICLE (TUG) AS THE FLT CREW STARTED TO TAXI FOR TAKEOFF. AN INVESTIGATION REVEALED THAT AFTER PUSHBACK, THE GROUND CREW INFORMED THE FLT CREW (VIA INTERCOM) THAT THE BYPASS PIN WAS REMOVED & THE STEERING WAS CONNECTED. THE GROUND CREWMAN ENDED THE CONVERSTATION BY STATING 'YOU GENTLEMEN HAVE A NICE TRIP, SEE YOU ANOTHER DAY.' THE INTERCOM WAS DISCONNECTED & THE CAPTAIN STARTED TO TAXI, BEFORE RECEIVING A VISUAL SIGNAL FROM THE GROUND CREW & BEFORE THE TUG WAS REMOVED FROM THE AIRPLANE'S PATH. SUBSEQUENTLY, THE AIRPLANE HIT THE TOP OF THE TUG & DAMAGED THE LOWER RIGHT PART OF THE FORWARD FUSELAGE (BELOW THE COCKPIT WINDOWS).

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE OF THE CAPTAIN TO FOLLOW COMPANY PUSHBACK PROCEDURES AND NOT GETTING A RELEASE BEFORE STARTING TO TAXI.

## Findings

Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: TAXI - PUSHBACK/TOW

Findings

1. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
2. (F) CREW/GROUP COORDINATION - INADEQUATE - PILOT IN COMMAND
3. (F) CREW/GROUP COORDINATION - INADEQUATE - GROUND PERSONNEL
4. OBJECT - VEHICLE
5. (C) CLEARANCE - NOT MAINTAINED

## Factual Information

### Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	58, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<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 FAA Medical Exam:</b>	August 17, 1988
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	25000 hours (Total, all aircraft), 3500 hours (Total, this make and model), 20000 hours (Pilot In Command, all aircraft), 82 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BOEING	<b>Registration:</b>	N729RW
<b>Model/Series:</b>	727-200 727-200	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	21742
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	152
<b>Date/Type of Last Inspection:</b>	Continuous airworthiness	<b>Certified Max Gross Wt.:</b>	194800 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	3 Turbo fan
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	JT8D-17R
<b>Registered Owner:</b>	NORTHWEST AIRLINES	<b>Rated Power:</b>	18000 Lbs thrust
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	NWAA

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Scattered / 25000 ft AGL	<b>Visibility</b>	15 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	16 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	280°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29 inches Hg	<b>Temperature/Dew Point:</b>	26°C / 4°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	WINNIPEG,CANADA, OF (YWG)	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>	14:14 Local	<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	MINNEAPOLIS/ST.PAUL INTL MSP	<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	840 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	6 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	65 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	71 None	<b>Latitude, Longitude:</b>	44.840553,-93.279434(est)

## Administrative Information

**Investigator In Charge (IIC):** Bruce, William

**Additional Participating Persons:**

**Original Publish Date:** January 31, 1990

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.ntsb.gov/Docket?ProjectID=13971>

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