



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	MILWAUKEE, WI	<b>Accident Number:</b>	CHI99FA208
<b>Date &amp; Time:</b>	07/02/1999, 0806 CDT	<b>Registration:</b>	N502ME
<b>Aircraft:</b>	McDonnell Douglas DC-9-32	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	9 None

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

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## Analysis

The lavatory service truck impacted the fuselage of the parked aircraft while the truck was being backed into position. The driver of the lavatory service truck reported that her foot slipped off the brake pedal and depressed the accelerator pedal. Marshalls were not used during lavatory servicing.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The vehicle driver's inadvertent application of the accelerator pedal while backing towards the aircraft.

## Findings

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Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: STANDING - ENGINE(S) NOT OPERATING

### Findings

1. OBJECT - VEHICLE
2. (C) THROTTLE/POWER CONTROL - INADVERTENT ACTIVATION - DRIVER OF VEHICLE

## Factual Information

On July 2, 1999, at 0806 central daylight time, a McDonnell Douglas DC-9-32, N502ME, operated by Midwest Express Airlines Incorporated (MEA) as Flight 2, received substantial damage when a lavatory service truck impacted the fuselage of the aircraft at Gate 41, Concourse D, at General Mitchell International Airport (MKE), Milwaukee, Wisconsin. Visual meteorological conditions prevailed at the time of the accident. The through-flight was operating under the provisions of CFR Part 121. The flightcrew, five passengers and the lavatory truck driver reported no injuries. The flight originated at La Guardia Airport, New York, New York, with a scheduled stop at MKE, en route to Kansas City International Airport, Kansas City, Missouri.

The lavatory truck driver reported that she began a 0530 work shift on lavatories the day of the accident. It was her first time alone and second time servicing aircraft.

During a telephone conversation, the lavatory truck driver reported the following: She was assigned lavatory service on the day of the accident. She had waited for Flight 2 to land, which was her fourth aircraft that she had serviced that day. She stated that she was riding the brake while maneuvering the lavatory truck backwards. She would usually stop when the flags, mounted on the aft end of the truck, touched the aircraft. While maneuvering backwards, her foot slipped off the brake and hit the accelerator pedal. She stopped as soon as she could but at that time she had already hit the aircraft. She stated that she would have one arm on the steering wheel and one arm on the seat while backing up. She was taught to ride the brake at a walking speed when at a point 4 ft from the aircraft. From what she noticed, everyone else was using the same method. She also reported that she scooted up in the seat but did not think of adjusting it. She was wearing Occupational Safety and Health Administration approved, steel toed, Harley Davidson boots. She reported that her height was 5 feet 6 inches.

A training record provided by MEA indicates that the driver of the lavatory truck was a ramp service agent hired on June 7, 1999. She received lavatory service training on June 14, 1999. The record also indicated that the ramp service agent completed training on June 28, 1999.

The lavatory truck involved in the accident was manufactured by Wollard Airport Equipment Company, Miami, Florida. The lavatory service truck, model TLS-770, was constructed from a Ford F-350 vehicle cab, chassis, a 445-gallon waste tank and a 270-gallon flush water tank. The tank assembly was mounted on the rear of the chassis and had a height of 57-3/4 inches from the ground. The truck was also equipped with a service hose which was approximately 5 feet in length. A photo included in this report shows that the top of the tank assembly(s) extends into the rear windshield.

During a meeting, MEA representatives reported the policy for minimum distance that service vehicles should approach aircraft to be 3 feet for the lavatory service trucks and 4 feet for the potable water trucks. During the field investigation, potable water trucks would service aircraft at an estimated distance of 4 feet from the aircraft. A ramp service agent of 6-1/2 years stated, that she did not know the length of the potable water trucks fill hose. She indicated that in servicing the aircraft with potable water she would, at times, use a marshaller to provide guidance in the backing the water truck to the aircraft. She stated that she did not use a marshaller when backing the lavatory service truck since there was nobody working on that side of the aircraft. Photos depicting the position she would use in backing the lavatory truck were taken along with photos of water and lavatory servicing during the field investigation.

The photos are included in this report.

Following the accident, the MEA Ramp Service Manual has been revised to reflect changes made to the procedures used in servicing aircraft. The manual states, "A guide person or marshaller shall be utilized when backing a vehicle to or from an aircraft. It is important for the guide person to stand in a location visible to the driver in a rear view mirror or to one side (not directly behind the truck) while directing the vehicle.

The Federal Aviation Administration and MEA were parties to the investigation.

## Pilot Information

<b>Certificate:</b>	Airline Transport; Commercial	<b>Age:</b>	40, 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>	
<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>	06/17/1999
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	8000 hours (Total, this make and model), 240 hours (Last 90 days, all aircraft), 54 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	McDonnell Douglas	<b>Registration:</b>	N502ME
<b>Model/Series:</b>	DC-9-32 DC-9-32	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	48132
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	91
<b>Date/Type of Last Inspection:</b>	06/25/1999, Continuous Airworthiness	<b>Certified Max Gross Wt.:</b>	110000 lbs
<b>Time Since Last Inspection:</b>	63 Hours	<b>Engines:</b>	2 Turbo Fan
<b>Airframe Total Time:</b>	41567 Hours	<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>		<b>Engine Model/Series:</b>	48132
<b>Registered Owner:</b>	MIDWEST EXPRESS AIRLINES INC.	<b>Rated Power:</b>	14500 lbs
<b>Operator:</b>	MIDWEST EXPRESS AIRLINES INC.	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	MWEA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	MKE, 723 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0756 CDT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 25000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	253°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	21° C / 18° C
Precipitation and Obscuration:			
Departure Point:	NEW YORK, NY (LGA)	Type of Flight Plan Filed:	IFR
Destination:	KANSAS CITY, MO (MCI)	Type of Clearance:	
Departure Time:	0000	Type of Airspace:	

## Airport Information

Airport:	GENERAL MITCHELL INTL (MKE)	Runway Surface Type:	
Airport Elevation:	723 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	4 None	Aircraft Damage:	Substantial
Passenger Injuries:	5 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	9 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	MITCHELL F GALLO	Report Date:	01/18/2001
Additional Participating Persons:	REXFORD D WHITE; MILWAUKEE, WI EILEEN D BRUESEWITZ; OAK CREEK, WI		
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:pubinquiry@ntsb.gov">pubinquiry@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> .		

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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](#).