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## Collision between lavatory service truck and McDonnell Douglas DC-9-32, July 2, 1999

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**Micro-summary:** This McDonnell Douglas DC-9-32 was struck by a lavatory service truck.

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**Event Date:** 1999-07-02 at 806 CDT


**Investigative Body:** National Transportation Safety Board (NTSB), USA

**Investigative Body's Web Site:** <http://www.nts.gov/>

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1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).
  2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. ***Your company's flight operations manual is the final authority as to the safe operation of your aircraft!***
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		NTSB ID: CHI99FA208		Aircraft Registration Number: N502ME	
		Occurrence Date: 07/02/1999		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place MILWAUKEE		State WI	Zip Code 53154	Local Time 0806	Time Zone CDT
Airport Proximity: Unknown		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer McDonnell Douglas		Model/Series DC-9-32		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>					
FACTUAL REPORT - AVIATION					
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National Transportation Safety Board

## FACTUAL REPORT

AVIATION

NTSB ID: CHI99FA208

Occurrence Date: 07/02/1999


Occurrence Type: Accident


## Narrative (Continued)

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.

		NTSB ID: CHI99FA208				
		Occurrence Date: 07/02/1999				
		Occurrence Type: Accident				
Landing Facility/Approach Information						
Airport Name GENERAL MITCHELL INTL		Airport ID: MKE	Airport Elevation 723 Ft. MSL	Runway Used 0	Runway Length	Runway Width
Runway Surface Type:						
Runway Surface Condition:						
Type Instrument Approach:						
VFR Approach/Landing:						
Aircraft Information						
Aircraft Manufacturer McDonnell Douglas		Model/Series DC-9-32		Serial Number 48132		
Airworthiness Certificate(s): Transport						
Landing Gear Type: Retractable - Tricycle						
Homebuilt Aircraft? No		Number of Seats: 91	Certified Max Gross Wt. 110000 LBS		Number of Engines: 2	
Engine Type: Turbo Fan		Engine Manufacturer: P&W		Model/Series: 48132	Rated Power: 14500 LBS	
- Aircraft Inspection Information						
Type of Last Inspection Continuous Airworthiness		Date of Last Inspection 06/1999	Time Since Last Inspection 63 Hours		Airframe Total Time 41567 Hours	
- Emergency Locator Transmitter (ELT) Information						
ELT Installed?		ELT Operated?		ELT Aided in Locating Accident Site?		
Owner/Operator Information						
Registered Aircraft Owner MIDWEST EXPRESS AIRLINES INC.		Street Address 6744 S. HOWELL AVE				
		City OAK CREEK		State WI	Zip Code 53154	
Operator of Aircraft Same as Reg'd Aircraft Owner		Street Address Same as Reg'd Aircraft Owner				
		City		State	Zip Code	
Operator Does Business As:			Operator Designator Code: MWEA			
- Type of U.S. Certificate(s) Held:						
Air Carrier Operating Certificate(s): Flag Carrier/Domestic						
Operating Certificate:			Operator Certificate:			
Regulation Flight Conducted Under: Part 121: Air Carrier						
Type of Flight Operation Conducted: Scheduled; Domestic; Passenger Only						
FACTUAL REPORT - AVIATION						

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: CHI99FA208
	Occurrence Date: 07/02/1999
	Occurrence Type: Accident

**First Pilot Information**

Name On File	City On File	State On File	Date of Birth On File	Age 40
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Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Airline Transport; Commercial

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review?
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 06/1999
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time		8000								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	240	240								
Last 30 Days	54	54								
Last 24 Hours	8	8								

Seatbelt Used?	Shoulder Harness Used?	Toxicology Performed? No	Second Pilot? Yes
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**Flight Plan/Itinerary**

Type of Flight Plan Filed: IFR

Departure Point NEW YORK	State NY	Airport Identifier LGA	Departure Time 0000	Time Zone
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Destination KANSAS CITY	State MO	Airport Identifier MCI	
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Type of Clearance:

Type of Airspace:

**Weather Information**

Source of Briefing:

Method of Briefing:

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: CHI99FA208
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**Weather Information**

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
MKE	0756	CDT	723 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Clear			0 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: Broken		25000 Ft. AGL		Visibility: 10 SM	Altimeter: 29.00 "Hg
Temperature: 21 °C	Dew Point: 18 °C	Wind Direction: 253		Density Altitude: Ft.	
Wind Speed: 9	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): 0 Ft.	Visibility (RVV) 0 SM	Intensity of Precipitation: Unknown			
Restrictions to Visibility: None					
Type of Precipitation: None					

**Accident Information**

Aircraft Damage: Substantial	Aircraft Fire: None	Aircraft Explosion: None
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Classification: U.S. Registered/U.S. Soil

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot				1	1
Second Pilot				1	1
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants				2	2
Other Crew					
Passengers				5	5
- TOTAL ABOARD -				9	9
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	9	9

National Transportation Safety Board

**FACTUAL REPORT**

**AVIATION**



NTSB ID: CHI99FA208

Occurrence Date: 07/02/1999

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

MITCHELL F. GALLO

Additional Persons Participating in This Accident/Incident Investigation:

REXFORD D WHITE  
FAA, 4915 S HOWELL AVE  
MILWAUKEE, WI 53207

EILEEN D BRUESEWITZ  
MEA, 6744 S HOWELL AVE HQ-21  
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