
Ground Collision between Boeing 737-322 and truck, Denver, June 17, 1998

Micro-summary: This Boeing 737-322 collided with a truck during pushback.


Event Date: 1998-06-17 at 2046 MDT

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

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

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		NTSB ID: FTW98FA273		Aircraft Registration Number: N364UA	
		Occurrence Date: 06/17/1998		Most Critical Injury: Minor	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place DENVER	State CO	Zip Code 80249	Local Time 2046	Time Zone MDT	
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 737-322		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:					
HISTORY OF FLIGHT					
<p>On June 17, 1998, at 2046 mountain daylight time, a Boeing 737-322, N364UA, registered to the Wilmington Trust Company and operated by United Airlines, and a 1992 International truck, registered to and operated by Dobbs International Services, Inc., were both substantially damaged when the airplane was pushed back from its gate and collided with the parked truck at Denver International Airport, Denver, Colorado. There were no injuries to the airline transport rated captain and first officer, 3 flight attendants, and 65 passengers aboard the airplane. The two occupants of the truck received minor injuries. Visual meteorological conditions prevailed, and an IFR flight plan had been filed for the flight that was to be operated under Title 14 CFR Part 121. The flight had not yet originated when the accident occurred.</p>					
<p>United Airlines flight 475, scheduled domestic passenger service from Denver, Colorado, to Ontario, California, had been cleared by ramp control for pushback from B53 (gate 53, B concourse). According to the captain's safety report, the airplane had moved backwards about 20 feet when the captain felt "a thud." The tug operator advised him that they had struck a catering truck. The APU DET INOP light illuminated and the APU (auxiliary power unit) was secured. The passengers and crew deplaned via mobile airstairs. Postaccident inspection revealed the airplane's tailcone had struck the Dobbs International Services truck, knocking the truck over on its right side.</p>					
<p>The accident occurred at a location of 39 degrees, 51.51 minutes north latitude and 104 degrees, 40.02 minutes west longitude.</p>					
DAMAGE TO AIRCRAFT					
<p>According to United Airlines, N364UA (s/n 24533) struck the truck just aft of BS (body station) 1016. This tore a 15 inch hole between stringers 16L (left) and 26R (right). Stringers 26L, 26R, and 27R were also damaged. Four inches aft of BS 1016, between stringers 22R and 23R, there was a 3 inch x 3 inch hole in the fuselage. The skin and stringers 26L and 26R, from BS 1033 to BS 1066, were damaged. BS 1156 frame was crushed and there was a large hole in the APU access door. There was an 11 inch x 5 inch hole in the aft pressure bulkhead. Three chords and BS 1016 frame were damaged in this area. The fiberglass tailcone was crushed. Cost of repairs was estimated to be \$33,000.</p>					
<p>According to Dobbs International Services, most of the damage to the airplane was caused by the truck's stabilizers that were in the retracted position. In addition to peripheral body damage, the frame of the truck (VIN 1GTSCPMN1NH453389) was sprung. Cost of repairs were estimated to be \$5,000.</p>					
PERSONNEL INFORMATION					

National Transportation Safety Board

FACTUAL REPORT

AVIATION

NTSB ID: FTW98FA273

Occurrence Date: 06/17/1998

Occurrence Type: Accident

Narrative (Continued)

According to the Federal Aviation Administration, Captain Scott C. Volk, First Officer Christine R. Shanholtzer, and the three flight attendants aboard flight 475 were properly certificated and qualified in their respective positions to conduct the flight.

Documents submitted by United Airlines indicate the tug operator, Aircraft Maintenance Technician Gary Weekly, had been trained and found qualified to perform his assigned duties.

Dobbs International Services' documents indicate Customer Service Representative Kim Ngo and Customer Service Assistant Leroy Prince had both been trained and found qualified to perform their assigned duties. Mr. Ngo had 9-1/2 years of airline catering experience: 6 years with Chelsea Airline Catering (owned by Continental Airlines), and 3-1/2 years with Dobbs. During those 9-1/2 years, he had been cited only once by Denver International Airport. On January 18, 1996, he failed to yield the right of way to a Sierra Pacific Airlines Convair 580.

METEOROLOGICAL INFORMATION

The accident occurred in visual meteorological conditions during the hours of dusk (for details, see page 4 of this report). According to NTSB's Operational Factors Division, sunset occurred at 2037, and twilight ended at 2110.

AERODROME INFORMATION

The accident occurred in a non-movement area (not under air traffic control). Directly behind the parked airplanes are two lines painted on the tarmac to delineate traffic lanes used by ground support and other motorized vehicles. These lanes are referred to as the vehicle service road (VSR).

MEDICAL AND PATHOLOGICAL INFORMATION

Toxicological screening was not performed on the crew of flight 475.

Toxicological screening was performed on Mr. Ngo and Mr. Prince. According to a report from SmithKline Beecham Clinical Laboratories, both Mr. Ngo and Mr. Prince tested negative for ethyl alcohol, and basic, acidic, and neutral drugs. Specimens were taken six hours after the accident.

Toxicological screening was also performed on Mr. Weekly. According to a report from Quest Diagnostics, the drug test was negative. Specimens were taken 18 hours after the accident.

TESTS AND RESEARCH

At the request of the investigator in charge, a human performance investigator was dispatched from NTSB headquarters to assist in the investigation. She assisted the investigator in charge in conducting interviews with the principals that were involved in the accident. The interviews were conducted on June 22, 1998, at Denver International Airport. The following based on those interviews, and is chronologically formatted (stated times vary between interviewees and are therefore approximate).

2030: Dobbs International Services (DIS) truck #53389, manned by Customer Service Representative (CSR) Ngo and Customer Service Assistant (CSA) Prince, was dispatched to gate B51 to service United Airlines (UAL) flight 1144, scheduled to arrive at 2053. The drive from the kitchen to the gate took approximately 10 minutes.

2035: Meanwhile, DIS truck #246 arrived at gate B53 to service UAL flight 475. Access to the airplane's first class (right front) galley was blocked by ramp service vehicles, so CSR Naudad and

National Transportation Safety Board

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CSA Eskeias began servicing the coach (left aft) galley. It was about this time that Aircraft Maintenance Technician (AMT) Weekly said he conducted a walk-around inspection of the airplane, and noted that the accident truck (#53389) had not yet arrived. His walk-around inspection was confirmed by Ramp Serviceman (RSM) Steven Kirsch.

2040: DIS truck #53389 arrived at gate B51, but UAL flight 1144 had still not arrived. CSR Ngo parked his truck directly behind flight 475 parked at gate B53, setting the parking brake and turning off the engine but leaving the headlights on. He said he was unconcerned about parking behind the airplane because the jetway was in place, the airplane's rotating beacon was not flashing, and another DIS truck (#246) was in the process of finishing service to the coach section (left aft galley). At about this time, DIS truck #246 backed away from the airplane and drove around the right side of DIS truck #53389. Both CSR Nauzad and CSA Eskeias noticed the parked truck (#53389) behind the airplane. They stopped briefly at the airplane's right wing tip to allow a baggage cart to be moved, then positioned their truck to service the first class galley.

2043: RSM Steven Kirsch finished loading baggage into the forward cargo bin and backed his belt loader away from the airplane. Normally, he said, he would drive the belt loader to the vehicle service road and block traffic, an indication that an airplane was being pushed back. He was unable to do so this time because he was blocked by DIS truck #246. CSR Nauzad and CSA Eskeias said they noticed AMT Weekly sitting in the tug. CSR Nauzad said he never saw AMT Weekly get out and make a walk-around inspection of the airplane. At about this time, AMT Weekly said he "looked under the airplane one more time," then got into the tug.

2043: Ramp controller Carl Noda said he is responsible for airplanes taxiing in the non-movement area. He keeps airplanes separated from airplanes, not from ground vehicles. From his position in the ramp tower, he was unable to see the catering truck parked behind United flight 475 because his line of sight was obstructed by buildings protuberances. Pushback clearance was issued at 2043.


2046: With catering completed, CSR Nauzad began backing truck #246 away from the airplane as the airplane was being pushed back. CSA Eskeias saw the truck behind the airplane and signaled CSR Nauzad to stop, then attempted to signal AMT Weekly to stop. The collision then occurred.


2052: UAL flight 1144 arrived at gate B51, having been delayed for several minutes due to the collision.

ADDITIONAL INFORMATION

In addition to the Federal Aviation Administration, the investigator in charge designated the following to be parties to the investigation: United Airlines, International Association of Machinists, Dobbs International Services, and Denver International Airport. All of the parties to the investigation were invited to and did submit reports that are attached as exhibits to this report.

N364UA was released to United Airlines on June 18, 1998. The truck was released to Dobbs International on June 18, 1998.

		NTSB ID: FTW98FA273			
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Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
DENVER INTERNATIONAL	DEN	5431 Ft. MSL	0		
Runway Surface Type:					
Runway Surface Condition:					
Type Instrument Approach:					
VFR Approach/Landing:					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Boeing		737-322		24533	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 132	Certified Max Gross Wt.	130000 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	Cfm	C56-3-C1	20000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness	06/1998	18 Hours	27323 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
UNITED AIRLINES, INC.		P.O. BOX 66100			
		City	State	Zip Code	
		CHICAGO	IL	60666	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City	State	Zip Code	
Operator Does Business As:			Operator Designator Code: UALA		
- 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					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: FTW98FA273
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First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 43
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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; Flight Instructor; Commercial; Flight Engineer

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

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): Airplane Single-engine; Instrument Airplane

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--no waivers/lim.	Date of Last Medical Exam: 05/1998
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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	10466	3783								
Pilot In Command(PIC)		3783								
Instructor										
Last 90 Days		201								
Last 30 Days		60								
Last 24 Hours		11								

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

Type of Flight Plan Filed: IFR

Departure Point Same as Accident/Incident Location	State	Airport Identifier DEN	Departure Time 0000	Time Zone
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Destination ONTARIO	State CA	Airport Identifier ONT	
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Type of Clearance: None

Type of Airspace: Class B

Weather Information

Source of Briefing: Company

Method of Briefing:

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
DEN	2045	MDT	5431 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Scattered			12000 Ft. AGL	Condition of Light: Dusk	
Lowest Ceiling: Broken		25000 Ft. AGL		Visibility: 10 SM	Altimeter: 29.00 "Hg
Temperature: 27 °C	Dew Point: °C	Wind Direction: 70		Density Altitude: 7978 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

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				3	3
Other Crew					
Passengers				65	65
- TOTAL ABOARD -				70	70
Other Ground	0	0	2		2
- GRAND TOTAL -	0	0	2	70	72

National Transportation Safety Board

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Administrative Information

Investigator-In-Charge (IIC)

ARNOLD W. SCOTT

Additional Persons Participating in This Accident/Incident Investigation:

ALVIN H HANKINS
FAA FSDO
DENVER, CO 80249