
Runway incursion, two Boeing 737s at DFW, August 16, 2001

Micro-summary: One airplane was cleared to cross a runway in front of another airplane that had previously been given a takeoff clearance.

Event Date: 2001-08-16 at 1024 CDT


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

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

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		NTSB ID: FTW01IA183A		Aircraft Registration Number: N308WA	
		Occurrence Date: 08/16/2001		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place DFW Airport		State TX	Zip Code 75261	Local Time 1024	Time Zone CDT
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 737-347		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 August 16, 2001, at 1024 central daylight time, a Boeing 737-347, N308WA, operating as Delta Airlines Flight 1521 (DAL1521), sustained minor damage, and a Boeing 737-524, N33635, operating as Continental Airlines Flight 1487 (COA1487), was not damaged during a runway incursion at the Dallas/Fort Worth International Airport (DFW), Texas. DAL 1521 was being operated by Delta Air Lines, Inc., of Atlanta, Georgia under 14 Code of Federal Regulations Part 121, as a scheduled domestic passenger flight, from DFW to Oakland, California. COA 1487 was being operated by Continental Airlines, Inc., of Houston, Texas under 14 Code of Federal Regulations Part 121, as a scheduled domestic passenger flight, from Cleveland, Ohio to DFW. There were no injuries to either the 125 passengers and the 5 crewmembers aboard DAL 1521, or to the 55 passengers and the 5 crewmembers aboard COA 1487.</p>					
<p>The flight crew of DAL 1521 reported that as they were taxiing and approaching runway 18L, the tower controller, local west one (LW1) instructed them to hold short and shortly thereafter were issued a "taxi into position and hold" clearance. As they were turning onto the runway, LW1 issued a takeoff clearance. The Captain, who was the flying pilot, began the takeoff roll. Shortly thereafter, both pilots observed a Continental 737 taxiing east on taxiway Whiskey Mike. The Continental 737 "approached then passed the hold point for runway 18L and continued taxiing onto the runway." As the aircraft entered the runway, the Captain "pushed the throttles to max and began to rotate." As the aircraft rotated a "slight bump" was felt, and they passed directly over the Continental 737, clearing the top of the fuselage by "100 or more feet." DAL 1521 continued the takeoff and landed back at DFW, taxied to the gate and deplaned the passengers. DAL 1521 returned to DFW because the pilots believed the airplane's tail may have impacted the runway during takeoff. Examination of the airplane by NTSB investigators revealed damage to the skin on the underside of the tail, consistent with contact with the runway surface.</p>					
<p>The flight crew of COA 1487 reported that they landed "normally" on runway 18R and took the high speed exit Echo Five. As they were slowing down, while expecting to receive instructions to hold short of runway 18L, the LW1 controller instructed them to "cross runway 18L, turn left on foxtrot to the gate with me." As the Captain increased power to cross runway 18L, he looked to his left and "saw an aircraft on the runway that looked like it was holding for takeoff." As their aircraft started to nose out on the runway, the pilots realized that the aircraft on runway 18L was on its takeoff roll. The Captain determined that he "could not stop the aircraft in a safe location," so he increased power to try and clear the runway. The Captain estimated that "about half of my aircraft was still on the runway when the other aircraft passed overhead," and he estimated that the aircraft "passed about 100 feet above us." COA1487 continued to the gate and deplaned the passengers.</p>					
AIR TRAFFIC CONTROL					
FACTUAL REPORT - AVIATION					

National Transportation Safety Board

FACTUAL REPORT

AVIATION

NTSB ID: FTW011A183A

Occurrence Date: 08/16/2001

Occurrence Type: Incident

Narrative (Continued)

Approximately 1015, the West air traffic control tower (ATCT) supervisor-in-charge (ASW) instructed ground control west one (GW1) and LW1 controllers to combine positions. ASW was operating the flight data position (FD) combined with his own supervisory duties. At 1017:16, the incident LW1 controller received a position relief briefing and assumed responsibility for the LW1/GW1 combined position.

At 1019:26, on the LW1 frequency, the pilot of COA1487 transmitted that he was on approach for runway 18R. Three seconds after the pilot of COA1487 began his transmission, the pilot of a non-involved airplane, DAL 2238, transmitted that he needed to exit taxiway Y to address a problem. LW1 instructed DAL 2238 to stop at taxiway Yankee near runway 18L and advise him when the flight was ready to continue taxiing. At 1019:57, LW1 cleared the pilot of COA1487 to land on runway 18R, and the pilot acknowledged the clearance.

During the next 43 seconds, LW1 made six transmissions to and received five transmissions from pilots and vehicle operators regarding taxiway instructions.

Approximately 1020, the DFW ATCT National Air Traffic Controllers Association (NATCA) representative entered the tower cab and requested a meeting with the ASW.

At 1020:49, the pilot of DAL1521 transmitted on the GW1 frequency that he was located on the south side of Zulu bridge. LW1 instructed the pilot to proceed straight ahead for runway 18L. The pilot acknowledged.

During the next 2 minutes 30 seconds, LW1 made five transmissions to and received eight transmissions from taxiing pilots.

At 1022:36, LW1 cleared the pilot of DAL1521 to taxi into position and hold on runway 18L. The pilot acknowledged.

At 1022:42, LW1 transmitted, "Delta seventeen twenty nine, do we have a problem? Cuz you're stopping traffic." The pilot had stopped the airplane in front of the B bridge. The pilot responded that he needed "a moment." LW1 loudly replied that he did not "have time for a moment," because DAL1729 was blocking traffic, and LW1 needed DAL1729 to move. ASW, the union representative, and another controller present in the tower cab (GW1) all stated they heard this transmission and believed LW1 was busy. GW1 retrieved his headset and proceeded to the GW1 workstation to decombine GW1 from LW1. Meanwhile, two more pilots called and received clearances from LW1.

According to radar data, at 1023:01, COA1487 had landed and was rolling out on runway 18R.

At 1023:14, LW1 cleared the pilot of DAL1521 for takeoff on runway 18L. As soon as the pilot acknowledged the clearance, LW1 gave two more pilots taxi clearances.

At 1023:40, as COA1487 exited runway 18R at high speed exit Echo Five, LW1 cleared COA1487 to cross runway 18L, then to turn left on taxiway Foxtrot, and taxi to parking. The pilot acknowledged. In an interview, LW1 said he did not scan runway 18L. Following this clearance, LW1 continued giving ground control instructions to pilots on the taxiways.

According to radar data, approximately 1024:14, DAL1521 took off from runway 18L and over flew COA1487 who was crossing the runway. Approximately 1024:18, the targets of DAL1521 and COA1487 were merged at a point correlating to runway 18L at taxiway Whiskey Mike.

During interviews, each of the four control personnel in the ATCT stated that they did not see the incident.

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At 1024:30, the pilot of DAL1521 attempted to contact LW1 but received no response. Two other pilots who attempted to call LW1 also received no response.

At 1024:46, LW1 instructed the pilot of DAL1521 to contact departure control. The pilot asked if LW1 had seen a Continental airplane cross in front him on take off roll. LW1 said he had not. The pilot responded that someone cleared COA1487 to cross runway 18L after he had been cleared for take off. LW1 asked the pilot his location during the incident, specifically if he was already airborne. The pilot responded that he had been on take off roll and, "We just missed him by a little bit." LW1 thanked the pilot for the report.


METEOROLOGICAL INFORMATION


At 1056, the weather observation facility at DFW reported a few clouds at 3,000 feet agl, broken clouds at 15,000 feet agl, visibility 10 statute miles, wind 020 at 3 knots, temperature 81 degrees Fahrenheit, dew point 72 degrees Fahrenheit, and altimeter 30.06 inches of Mercury.

ADDITIONAL DATA

FAA Order 7110.65, Air Traffic Control Handbook, paragraph 3-1-3, "Use of Active Runways," states, "The local controller has primary responsibility for operations conducted on the active runway and must control the use of those runways." Paragraph 3-1-12, "Visually Scanning Runways," states that, "Local controllers shall visually scan runways to the maximum extent possible."

The data from DAL 1521's Digital Flight Data Recorder (DFDR) indicates that during takeoff, N1 for engine one reached a maximum of 95.12 percent and N1 for engine two reached a maximum of 95.52 percent. Control column position reached a maximum deflection of -7.498 degrees (aft), elevator moved to a maximum deflection of -19.52 degrees (up) and pitch angle reached a peak of 20.25 degrees. Longitudinal acceleration measured a high of 0.394 g and a low of 0.148 g; vertical acceleration reached a maximum of 1.204 g and a minimum of 0.807 g.

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Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Dallas/Fort Worth Int'l	DFW	603 Ft. MSL	18L	13400	200
Runway Surface Type: Concrete					
Runway Surface Condition: Dry					
Type Instrument Approach: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Boeing		737-347		23441	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 134	Certified Max Gross Wt.	130500 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	CFM International	CFM56-3-B1	20000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness	08/2001	Hours	Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? No	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
State Street Bank and Trust Company		Two International Place			
		City	State	Zip Code	
		Boston	MA	02110	
Operator of Aircraft		Street Address			
Delta Air Lines Inc		Hartsfield International Airport			
		City	State	Zip Code	
		Atlanta	GA	30320	
Operator Does Business As: Delta Airlines			Operator Designator Code: DALA		
- 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					

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	Occurrence Type: Incident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 54
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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? 04/2001
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Medical Cert.: Class 1	Medical Cert. Status: Valid Medical--w/ waivers/lim.	Date of Last Medical Exam: 04/2001
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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	19210	6439								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	104	104								
Last 30 Days										
Last 24 Hours	2	2								

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 DFW	Departure Time 1024	Time Zone CDT
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Destination OAKLAND	State CA	Airport Identifier OAK	
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Type of Clearance: IFR

Type of Airspace: Class B

Weather Information

Source of Briefing: Company


Method of Briefing: Telephone; Teletype

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
DFW	1056	CDT	603 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Few			3000 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: Broken		15000 Ft. AGL		Visibility: 10 SM	Altimeter: 30.06 "Hg
Temperature: 27 °C	Dew Point: 22 °C	Wind Direction: 20		Density Altitude: Ft.	
Wind Speed: 3	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): Ft.	Visibility (RVV) SM	Intensity of Precipitation:			
Restrictions to Visibility: None					
Type of Precipitation: None					

Accident Information		
Aircraft Damage: Minor	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				125	125
- TOTAL ABOARD -				130	130
Other Ground					
- GRAND TOTAL -				130	130

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Administrative Information

Investigator-In-Charge (IIC)

Douglas D. Wigington

Additional Persons Participating in This Accident/Incident Investigation:

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