
Wing walker injured by nosewheel, Lockheed L-1011, March 27, 1997

Micro-summary: A wing walker was driven over by this L-1011's nose wheel.

Event Date: 1997-03-27 at 1840 EST


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


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

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		NTSB ID: NYC97LA064		Aircraft Registration Number: N762DA	
		Occurrence Date: 03/27/1997		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place JAMAICA		State NY	Zip Code 11401	Local Time 1840	Time Zone EST
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Lockheed		Model/Series L-1011		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 March 27, 1997, at 1840 eastern standard time, a Lockheed L-1011, N762DA, operated by Delta Airlines as Flight 82, struck and fatally injured a company ground crew member while being towed onto a taxiway center line, after pushback from a terminal gate at the John F. Kennedy International Airport (JFK), Jamaica, New York. Visual meteorological conditions prevailed for the scheduled passenger flight that was destined for Nice, France. The flight crew of 13 and 189 passengers were not injured. An instrument flight rules flight plan had been filed for the flight conducted under 14 CFR Part 121.</p> <p>The airplane had been prepared for departure, and was pushed back from gate 23 by a ground crew of 3 Delta employees. The tug operator was seated facing the airplane, while wing walkers were placed at the left and right wing tips. The airplane was pushed back to the vicinity of the Lima and Alpha taxi line. The right wing walker, the designated Dispatch Agent (DA) for the flight, gave the tug operator the signal to start the engines. The tug operator then looked over his right shoulder to pull the airplane forward, to align it with the center line of the taxiway. During this movement, he maintained visual contact with the left wing walker.</p> <p>According to the left wing walker, when the forward motion was initiated, he and the right wing walker started to converge towards the tow bar, anticipating the disconnect that would occur when the airplane was stopped. The left wing walker observed the right wing walker near the tow bar, "doing something with what I took to be the headset cord." The left wing walker glanced back at the left wing tip, and when his vision returned back to the tow bar, he observed the right wing walker under the nose wheel of the airplane. The plug end of the tug operator's headset line cord was found under the airplane's nose wheel.</p> <p>A review of the Delta Ground Operations Manual 10-043 (GOM), revealed that the GOM did not specify where ground members of the pushback crew should be positioned during the pushback, to ensure safety. The GOM did not identify potential hazards associated with aircraft movement, and did not identify potential hazardous areas associated with aircraft engine operation. Additionally, the GOM did not differentiate between pushback operations from a gate, or pull forward/tow operations, used when the airplane was moved forward to be positioned on a taxiway center line.</p> <p>In a telephone interview with the left wing walker, he stated that the Dispatch Agent for a pushback operation was "...usually one of the two wing walkers." He also stated that headset disconnects during pushback occur, but did not happen frequently.</p> <p>According to the GOM, the dispatch agent, "... must remain in view of the tug driver, and should, to the greatest extent possible, remain in full view of the flight crew during the actual pushback maneuver." The Dispatch Agent was also required to monitor the pushback, and "be prepared to act on any signals from the wing walkers."</p>					
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Narrative (Continued)

Regarding tow bar disconnect procedures, the GOM stated:

"The Tug Driver will signal to the Dispatch Agent and the Wing Walkers that the brakes are set using the 'brakes set' signal. At this point responsibility for the procedure is returned to the Dispatch Agent who will execute a 'hold position' signal to the flight deck while the tow bar is disconnected."

The assigned ground crew supervisors on duty at the time of the accident were interviewed by a Federal Aviation Administration Inspector. During the interview they stated that they were aware of the tendency of the headset cord to disconnect from the aircraft, especially during certain sharp turns. When asked if the problem was being addressed they implied that it was expected as part of the job. When the supervisors were asked if the recurrent training had any emphasis on procedures to follow in the event anything out of the ordinary happened during a pushback, such as the headset cord disconnect, they replied "no."


Regarding headset cord disconnects, the GOM stated:


"Should the headset become inoperative during the actual pushback, stop the push. Establish visual communication with both the flight crew and the pushback crew, and give the headset inoperative hand signal. Once all personnel have been advised, continue the push using "Aircraft Pushback-Without Headset procedures."

According to the Delta Airlines chief pilot at JFK, the crew had started the number 2 engine, and had started to motor the number 1 engine, while the airplane was being moved forward.

As a result of the accident, and the investigation, Delta Airlines revised their GOM. The revised GOM included the establishment of "danger zones," for ground crew personnel to avoid during airplane movement and engine start, the creation of "Wing Walker Alleyways," the implementation of "pull forward" procedures, and a recommended pushback/pull forward crew consisting of four personnel.

Additionally, the revised GOM included expanded tow bar disconnect procedures, and several illustrations which depicted "danger zones," and the preferred location of ramp personnel during various stages of the pushback, and tow operations.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: NYC97LA064			
		Occurrence Date: 03/27/1997			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
JOHN F. KENNEDY INTL	JFK	13 Ft. MSL	0		
Runway Surface Type:					
Runway Surface Condition:					
Type Instrument Approach:					
VFR Approach/Landing:					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Lockheed		L-1011		193Y-1210	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 286	Certified Max Gross Wt.	510000 LBS	Number of Engines: 3	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Jet	Rolls-Royce	RB-211-22	40000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness		Hours	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			
DELTA AIR LINES, INC.		HARTSFIELD ATLANTA INTL ARPRT			
		City	State	Zip Code	
		ATLANTA	GA	30320	
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: DELTA AIR LINES			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; International; Passenger Only					
FACTUAL REPORT - AVIATION					

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	Occurrence Date: 03/27/1997
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 57
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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--no waivers/lim.	Date of Last Medical Exam: 01/1997
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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	18300	1622								
Pilot In Command(PIC)										
Instructor										
Last 90 Days	173	173								
Last 30 Days										
Last 24 Hours										

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 JFK	Departure Time 0000	Time Zone
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Destination NICE	State FO	Airport Identifier NCE	
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Type of Clearance: IFR

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
JFK	1851	EST	13 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Clear			0 Ft. AGL	Condition of Light: Dusk	
Lowest Ceiling: None		0 Ft. AGL	Visibility: 10	SM	Altimeter: 29.00 "Hg
Temperature: 16 °C	Dew Point: 4 °C	Wind Direction: 240		Density Altitude: Ft.	
Wind Speed: 13	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: None	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				1	1
Cabin Attendants				10	10
Other Crew					
Passengers				189	189
- TOTAL ABOARD -				202	202
Other Ground	1	0	0		1
- GRAND TOTAL -	1	0	0	202	203

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: NYC97LA064

Occurrence Date: 03/27/1997

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

ROBERT L. PEARCE

Additional Persons Participating in This Accident/Incident Investigation:

JOSE A SERRANO

NEW YORK