



National Transportation Safety Board Aviation Accident Final Report

Location:	WEST PALM BEACH, FL	Accident Number:	MIA95LA135
Date & Time:	05/24/1995, 1248 EDT	Registration:	N489DA
Aircraft:	BOEING 727-232	Aircraft Damage:	Substantial
Defining Event:		Injuries:	136 None

Flight Conducted Under: Part 121: Air Carrier - Scheduled

Analysis

THE AIRCRAFT WAS PUSHED BACK FROM THE GATE WITH TWO ENGINES OPERATING DUE TO AN INOPERATIVE APU. THE TUG DRIVER WAS ASSISTED BY TWO WING WALKERS. THERE WAS NO SIGNALMAN IN FRONT OF THE AIRCRAFT AS REQUIRED BY DELTA AIRLINES PUSHBACK PROCEDURES. AFTER PUSHING THE AIRCRAFT STRAIGHT BACK AND TURNING THE TAIL TO THE LEFT THE TUG WAS POSITIONED TO THE RIGHT FRONT OF THE AIRCRAFT. AS THE TUG MOVED FORWARD TO STRAIGHTEN THE NOSE GEAR THE SAFETY PIN ON THE TUG END OF THE TOW BAR SHEERED. THE AIRCRAFT BECAME DISCONNECTED FROM THE TUG AND ROLLED FORWARD STRIKING THE TUG WITH THE RIGHT FRONT AREA OF THE AIRCRAFT. AS THE AIRCRAFT ROLLED FORWARD THE TUG DRIVER'S HEADSET BECAME DISCONNECT FROM THE AIRCRAFT AND COMMUNICATION WITH THE COCKPIT CREW WAS LOST.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF THE GROUND PUSHBACK CREW TO FOLLOW DELTA AIRLINES PUSHBACK PROCEDURES AND PLACE A SIGNALMAN FORWARD OF THE AIRCRAFT IN VIEW OF THE CAPTAIN DURING PUSHBACK. THIS RESULTED IN THE CAPTAIN NOT BEING AWARE THAT THE TUG TOW BAR HAD DISCONNECTED AND THE NEED FOR HIM TO APPLY BRAKES TO STOP THE AIRCRAFT.

Findings

Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: TAXI - PUSHBACK/TOW

Findings

1. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - GROUND PERSONNEL
2. (F) LANDING GEAR,TOWBAR/ATTACHMENT - OVERLOAD
3. (F) LANDING GEAR,TOWBAR/ATTACHMENT - DISCONNECTED
4. OBJECT - VEHICLE

Factual Information

On May 24, 1995, about 1248 eastern daylight time, a Boeing 727-232, N489DA, registered to Delta Air Lines, Inc., and operating as Delta flight 1522, scheduled domestic passenger service from West Palm Beach, Florida, to Atlanta, Georgia, sustained damage when it collided with a tug during pushback at West Palm Beach. Visual meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed. The aircraft sustained substantial damage. The airline transport-rated pilot, first officer, flight engineer, 3 flight attendants, and 130 passengers were not injured. The flight was originating at the time of the accident.

The tug driver who was pushing N489DA from the gate stated that two of the aircraft's engines had been started before pushback due to the aircraft's power unit being inoperative. During the pushback there were two wing walkers. There was not a signal man in front of the aircraft in view of the captain, as required by Delta Air Lines pushback procedures, due to manpower shortages.

He pushed the aircraft straight back and then turned the aircraft's tail to the left. The aircraft and tug made a "U" shape at this time with the tug on the aircraft's right front. As he moved the tug to straighten the aircraft's nose gear, the safety pin on the tug end of the tow bar sheered. He did not believe he turned the nose gear beyond the normal limits; however, it was a "sharp" turn. The aircraft became disconnected from the tug and rolled forward at which time the right front side of the aircraft struck the tug. As the aircraft rolled forward the tug driver's headset cord became disconnected from the aircraft and he lost communication with the cockpit crew. The left wingman arrived at the front of the aircraft at this time and signaled the captain to brake the aircraft and stop it.

Pilot Information

Certificate:	Airline Transport	Age:	57, Male
Airplane Rating(s):	Multi-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last Medical Exam:	02/20/1995
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	18500 hours (Total, all aircraft), 9000 hours (Total, this make and model), 7000 hours (Pilot In Command, all aircraft), 187 hours (Last 90 days, all aircraft), 70 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	BOEING	Registration:	N489DA
Model/Series:	727-232 727-232	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	21019
Landing Gear Type:	Retractable - Tricycle	Seats:	152
Date/Type of Last Inspection:	03/06/1995, AAIP	Certified Max Gross Wt.:	142000 lbs
Time Since Last Inspection:	600 Hours	Engines:	3 Turbo Fan
Airframe Total Time:	60114 Hours	Engine Manufacturer:	P&W
ELT:	Not installed	Engine Model/Series:	JT8D-15A
Registered Owner:	DELTA AIR LINES INC	Rated Power:	15500 lbs
Operator:	DELTA AIR LINES INC	Air Carrier Operating Certificate:	Flag carrier (121)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PBI, 19 ft msl	Observation Time:	1256 EDT
Distance from Accident Site:	1 Nautical Miles	Direction from Accident Site:	180°
Lowest Cloud Condition:	Scattered / 2700 ft agl	Temperature/Dew Point:	30° C / 22° C
Lowest Ceiling:	None / 0 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	13 knots/ 19 knots, 100°	Visibility (RVR):	0 ft
Altimeter Setting:	30 inches Hg	Visibility (RVV):	0 Miles
Precipitation and Obscuration:			
Departure Point:	(PBI)	Type of Flight Plan Filed:	IFR
Destination:	ATLANTA, GA (ATL)	Type of Clearance:	IFR
Departure Time:	1248 EDT	Type of Airspace:	Class D

Airport Information

Airport:	PALM BEACH INTERNATIONAL (PBI)	Runway Surface Type:	
Airport Elevation:	19 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	6 None	Aircraft Damage:	Substantial
Passenger Injuries:	130 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	136 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): JEFFREY L KENNEDY **Adopted Date:** 08/31/1995

Additional Participating Persons: THOMAS LAIRD; FT. LAUDERDALE, FL

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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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