



National Transportation Safety Board Aviation Incident Data Summary

Location:	GREENSBORO, NC	Incident Number:	ATL89IA187
Date & Time:	08/02/1989, 1055 EDT	Registration:	N413US
Aircraft:	BOEING 737-400	Injuries:	106 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

DURING APPROACH TO CHARLOTTE, THE MAIN GEAR WOULD NOT EXTEND. THE FLT DIVERTED TO GREENSBORO. THE RIGHT GEAR EVENTUALLY EXTENDED AFTER APPLYING EXTENSIVE G-FORCES, BUT THE LEFT GEAR WOULD NOT. AFTER LANDING, A 29-INCH WHEEL CHOCK WAS FOUND WEDGED BETWEEN THE RADIUS OF THE LEFT WHEEL WELL AND THE INBOARD WHEEL WHICH PREVENTED THE LEFT GEAR FROM FALLING DOWN. THE AIRPLANE HAD BEEN POSITIONED SEVERAL TIMES THE NIGHT BEFORE, AND THE MECHANICS RECALLED PLACING THE CHOCKS IN THE WHEEL WELL. AN A-CHECK, AND A WALK-AROUND INSPECTION, HAD BEEN COMPLETED PRIOR TO THE FLIGHT'S DEPARTURE FROM WASHINGTON. EACH INSPECTION REQUIRED AN INSPECTION OF THE WHEEL WELL AREA. THE FIRST OFFICER STATED THAT HE DIDN'T SEE THE CHOCK WHICH WAS MARKED WITH YELLOW REFLECTIVE TAPE. A FLASHLIGHT WAS USED DURING THE INSPECTION.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be: FAILURE OF THE LINE MECHANIC, A CHECK MECHANIC, AND FIRST OFFICER TO IDENTIFY AND REMOVE THE WHEEL CHOCK FROM THE WHEEL WELL DURING THE REQUIRED INSPECTIONS.

Findings

Occurrence #1: GEAR NOT EXTENDED
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY - FOREIGN OBJECT
2. (C) LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY - JAMMED
3. (C) MAINTENANCE,INSPECTION - INADEQUATE - COMPANY MAINTENANCE PERSONNEL
4. (C) AIRCRAFT PREFLIGHT - INADEQUATE - COPILOT/SECOND PILOT

Pilot Information

Certificate:	Airline Transport	Age:	48
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	14019 hours (Total, all aircraft), 7944 hours (Total, this make and model), 189 hours (Last 90 days, all aircraft), 89 hours (Last 30 days, all aircraft), 10 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BOEING	Registration:	N413US
Model/Series:	737-400 737-400	Engines:	2 Turbo Fan
Operator:	PIEDMONT AIRLINES	Engine Manufacturer:	GE
Operating Certificate(s) Held:	Flag carrier (121)	Engine Model/Series:	56-382
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	GSO, 0 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None / 0 ft agl	Wind Speed/Gusts, Direction:	8 knots / , 340°
Temperature:	27° C	Visibility	4 Miles
Precipitation and Obscuration:			
Departure Point:	WASHINGTON, DC	Destination:	CHARLOTTE, NC

Airport Information

Airport:	GREENSBORO (GSO)	Runway Surface Type:	Concrete
Runway Used:	23	Runway Surface Condition:	Dry
Runway Length/Width:	10001 ft / 150 ft		

Wreckage and Impact Information

Crew Injuries:	6 None	Aircraft Damage:	Minor
Passenger Injuries:	100 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:			

Administrative Information

Investigator In Charge (IIC): PHILLIP POWELL Adopted Date: 09/11/1992

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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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.