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## Chocks left inside wheel well, Boeing 737-130, February 9, 1994

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**Micro-summary:** This Boeing 737-130 was damaged during landing from the presence of chocks left inside the wheel well.

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**Event Date:** 1994-02-09 at 2010 CST


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

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

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1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).
  2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. ***Your company's flight operations manual is the final authority as to the safe operation of your aircraft!***
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		NTSB ID: CHI94IA081		Aircraft Registration Number: N408PE	
		Occurrence Date: 02/09/1994		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place CHICAGO		State IL	Zip Code 60666	Local Time 2010	Time Zone CST
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer BOEING		Model/Series 737-130		Type of Aircraft Airplane	
Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>On February 9, 1994, at 2010 central standard time (CST), a Boeing 737-130, N408PE, operated by, Continental Airlines, Incorporated, of Houston, Texas, as Flight 381, and piloted by an airline transport certificated crew, received minor damage during a landing onto Runway 32 Left (13,000' X 200' concrete with patchy snowpack) at the Chicago O'Hare International Airport, Chicago, Illinois.</p> <p>The 14 CFR Part 121 flight was operating on an IFR flight plan. Visual meteorological conditions prevailed at the time of the incident. The flight crew, four flight attendants, and 94 passengers reported no injuries. The flight departed Newark, New Jersey, at 1800 EST.</p> <p>Before departing Newark, New Jersey, the airplane had been involved in maintenance activity. After the maintenance work had been completed, the airplane was removed from the hangar and positioned by the departure gate. Before moving it from the hangar, wheel chocks were removed from the front and rear edges of the tires. A mechanic placed a set of wheel chocks in the left main landing gear wheel well's inside lip edge. The airplane was repositioned at the departure gate.</p> <p>The company's general maintenance manual presented the chocking requirements for all its airplanes. Under the section entitled "Responsibility for Installing and Removing Chocks at Terminal Ramps" the person responsible for removal of the chocks is told: "Chocks are to be stored properly after each use. DO NOT leave lying on open ramps and gate areas."</p> <p>The first officer stated he did the walk-around inspection of the airplane. He said the walk-around was done during night conditions with snow, and blowing snow. The first officer said he was concerned about the snow on the wings. The first officer stated he did not see the wheel chocks in the wheel well when he did the walk-around inspection. He said he used a flashlight with two "D" sized batteries during the inspection.</p> <p>The first officer was asked to describe the walk-around process. His description matched the instructions found in the company's Boeing 737-200 aircraft flight manual (AFM). He was asked to describe the inspection of the main landing gear wheel wells in detail. His description matched the instructions found in the AFM. The AFM does not mention looking for debris in the wheel wells'.</p> <p>According to the AFM, the wheel well inspection is accomplished by: "Check(ing) wheel well area for general condition and hydraulic leaks and main gear viewer clean." The remainder of the inspection describes specific, mechanical, items that require viewing. There was no mention of wheel chock identification and removal.</p> <p>The company mandated a predeparture walk-around for all revenue flights. This inspection is accomplished by a lead safety agent and occurs before pushback from the passenger gate. The company's airport operations manual established the criteria for the agent's walk-around inspection. The only action associated with the airplane's landing gear was ensuring the landing</p>					
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National Transportation Safety Board

## FACTUAL REPORT

AVIATION

NTSB ID: CHI94IA081

Occurrence Date: 02/09/1994

Occurrence Type: Incident

## Narrative (Continued)

gear down-lock pins had been removed. There was no mention of wheel chock identification and removal. The company's station services training manual entitled "Narrowbody Aircraft Pushback Procedures" does not discuss the placement of wheel chocks when an airplane is to be moved or parked.

A maintenance supervisor from Newark, New Jersey, said the lead agents do not inspect the wheel well's interior. He said the lead agents do not carry flashlights during night inspections.


As the airplane approached the airport the first officer asked for the landing gear to be extended.


After the landing gear handle was placed into the down position, the pilots observed two green lights and one red light. The red light was the left main landing gear warning light that told the pilots the landing gear was not extended.

According to both pilots, they cycled the airplane's landing gear many times with the same gear warning light display upon each extension. The first officer said he went into the airplane's passenger cabin and looked at the landing gear through the landing gear viewing port. He said he was not able to figure out why the landing gear would not extend.

Both crew members said they discussed the next decision concerning the flight. They agreed to making a landing with a partially extended left main landing gear. Upon touchdown the captain said he used right engine reverse thrust to maintain directional control. When the airplane stopped, the captain had the passengers deplane out the airplane right forward door.

The on-scene investigation revealed that two, black rubber, wheel chocks were wedged between the inboard left main landing gear tire and the wheel well lip. Each chock had a piece of reflective yellow tape affixed to each of its three sides. During the first on-scene wheel well inspection the chocks were not observed using a flashlight having two new "D" sized batteries. A second inspection of the wheel well was conducted using a flashlight having six "D" sized batteries. The chocks were found during the second inspection.

		NTSB ID: CHI94IA081			
		Occurrence Date: 02/09/1994			
		Occurrence Type: Incident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
CHICAGO O'HARE INT'L ARPT	ORD	722 Ft. MSL	32L	13000	200
Runway Surface Type: Concrete					
Runway Surface Condition: Snow--compacted					
Type Instrument Approach:					
VFR Approach/Landing:					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
BOEING		737-130		19025	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 94	Certified Max Gross Wt.	109000 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Jet	P&W	JT8-9A			
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
AAIP	02/1994	17 Hours	59618 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			
CONTINENTAL AIRLINES, INC.		2929 ALLEN PARKWAY			
		City	State	Zip Code	
		HOUSTON	TX	77019	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City	State	Zip Code	
		HOUSTON	TX	77019	
Operator Does Business As:			Operator Designator Code: CALA		
- 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/Cargo					

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: CHI94IA081
	Occurrence Date: 02/09/1994
	Occurrence Type: Incident

**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

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--w/ waivers/lim.	Date of Last Medical Exam: 10/1993
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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	15205	4041	2396	12809	1800	1106	120			
Pilot In Command(PIC)	10777	4041	2216	9300	1450	1070	56			
Instructor	1880		1600	200	200	180	180			
Last 90 Days	125	112	13	112	16	8	4			
Last 30 Days	36	35	1	35	11	3				
Last 24 Hours	5	5		5	4	1				

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

Type of Flight Plan Filed: IFR

Departure Point NEWARK	State NJ	Airport Identifier EWR	Departure Time 1700	Time Zone EST
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Destination Same as Accident/Incident Location	State	Airport Identifier	
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Type of Clearance: IFR

Type of Airspace: Class E

**Weather Information**

Source of Briefing: Commercial Weather Service

Method of Briefing:

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: CHI94IA081
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<b>Weather Information</b>					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
ORD	2028	CST	720 Ft. MSL	1 NM	90 Deg. Mag.
Sky/Lowest Cloud Condition: Clear			0 Ft. AGL	Condition of Light: Night/Dark	
Lowest Ceiling: Unknown		0 Ft. AGL		Visibility: 12 SM	Altimeter: 30.00 "Hg
Temperature: -18 °C	Dew Point: -18 °C	Wind Direction: 330		Density Altitude: Ft.	
Wind Speed: 7	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					

<b>Accident Information</b>		
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				4	4
Other Crew					
Passengers				94	94
- TOTAL ABOARD -				100	100
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	100	100

National Transportation Safety Board

**FACTUAL REPORT**

**AVIATION**



NTSB ID: CHI94IA081

Occurrence Date: 02/09/1994

Occurrence Type: Incident

Administrative Information

Investigator-In-Charge (IIC)

FRANK S. GATTOLIN

Additional Persons Participating in This Accident/Incident Investigation:

JOSE E FIGUEROA

FAA/FSDO

SCHILLER PARK, IL 60176