National Transportation Safety Board
Aviation Incident Data Summary

Location:	Denver, CO	**Incident Number:**	DEN04IA050A
Date & Time:	03/05/2004, 2025 MST	**Registration:**	N467UA
Aircraft:	Airbus Industrie A320-232	**Injuries:**	73 None
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Analysis

The captain on the United A320 said that during their pushback, a TED A320 was being pushed back at an angle from its gate toward their position. The captain said he relayed his concern to the ground crew, but did not receive a clear response. As the TED A320 approached, two persons from their push crew ran out, "apparently to get a better view. Both airplanes were finally stopped in close proximity. We were positioned to the east of our push line, toward the other aircraft." The captain said that he requested that his tug remain in place in case they had to return to the gate for a sick passenger. When it was determined the passenger could fly, they started engines and released the pushback crew. He said the crew disconnected and they received a salute and a release from guidance for a left turn out. The captain said the TED A320 was still connected to its tug and one of its ground crew was standing to the left front of the airplane facing aft. "He was looking toward us and holding his right hand overhead, and with his left arm out and slightly raised, indicating the wingtip clearance distance." The captain said, "I taxied slowly forward at idle thrust and eased toward the left." After a short distance, the wingtips collided causing minor damage to both airplanes. The United first officer said both he and the captain looked at a ground crew member standing in front and between the two airplanes, looking at us with wand raised and other arm held out horizontally indicating wing clearance. I called for taxi and we were cleared for a left turn out. With wing man guidance and a visual check I told the captain we were cleared on the right. We started to move and I glanced forward. When I looked back out to the right, the wing walker was gone, and then the wingtips made contact. One of the ground crew members on the TED A320 said he was wing walking for the airplane on the first officer's side. Another ground crew member was on the captain's side of the TED A320. The first ground crew member said the other ground crew member stopped the pushback. He said he went around to see what was happening. As he did, the first ground crew member saw the wings of the two airplanes "about 20 to 30 feet apart." The first ground crew member said he looked at the first officer on the United A320 and gave him "the hold sign." He said he then went to the tug operator to discuss the position of the airplane. As he was talking with the tug operator, the United A320 proceeded to move and clipped the wing of the TED A320. United Airlines pushback procedures for Gates A46 and A48 at the Denver International Airport cited, "The coordination of the pushback must include ... verbal agreement between gate crews ... on which aircraft is being moved first, [and] continual visual observance of the clearance between aircraft ..."

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be:
the flight crew's failure to maintain clearance from the other airplane and the ground crews' failure to follow proper pushback procedures. Factors contributing to the incident were the flight crew's inadequate visual lookout, the other airplane ground crew's confusing visual signals to the flight crew, and the flight crew's inability to understand the signals being given to them.

Findings

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

Findings
1. (C) CLEARANCE - NOT MAINTAINED - FLIGHTCREW
2. (F) VISUAL LOOKOUT - INADEQUATE - FLIGHTCREW
3. (C) PROCEDURES/DIRECTIVES - IMPROPER - GROUND PERSONNEL
4. (F) COMMUNICATIONS - CONFUSING - GROUND PERSONNEL
5. (F) COMMUNICATIONS - NOT UNDERSTOOD - FLIGHTCREW

Pilot Information

Certificate:	Airline Transport; Flight Instructor	**Age:**	54
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	**Instrument Rating(s):**	Airplane
Other Aircraft Rating(s):	None	**Instructor Rating(s):**	Airplane Single-engine
Flight Time:	5937 hours (Total, all aircraft), 2000 hours (Total, this make and model), 4063 hours (Pilot In Command, all aircraft), 206 hours (Last 90 days, all aircraft), 85 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:	Airline Transport; Flight Instructor	**Age:**	38
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Instrument Rating(s):**	Airplane
Other Aircraft Rating(s):	None	**Instructor Rating(s):**	Airplane Single-engine
Flight Time:	3683 hours (Total, all aircraft), 1192 hours (Total, this make and model), 197 hours (Last 90 days, all aircraft), 56 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Airbus Industrie	**Registration:**	N467UA
Model/Series:	A320-232	**Engines:**	2 Turbo Jet
Operator:	United Air Lines, Incorporated	**Engine Manufacturer:**	International Aero Engines
Air Carrier Operating Certificate:	Flag carrier (121)	**Engine Model/Series:**	V2500
Flight Conducted Under:	Part 121: Air Carrier - Scheduled		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	DEN, 5431 ft msl	**Weather Information Source:**	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	**Lowest Ceiling:**	Broken / 2600 ft agl
Condition of Light:	Night	**Wind Speed/Gusts, Direction:**	11 knots, 200°
Temperature:	-1°C / -2°C	**Visibility**	2 Miles
Precipitation and Obscuration:			
Departure Point:	Denver, CO (DEN)	**Destination:**	Phoenix, AZ (PHX)

Airport Information

Airport:	DENVER INTL (DEN)	**Runway Surface Type:**	Unknown
Runway Used:	NA	**Runway Surface Condition:**	Unknown
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	6 None	**Aircraft Damage:**	Minor
Passenger Injuries:	67 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None

Administrative Information

Investigator In Charge (IIC):	David C Bowling	**Adopted Date:**	10/28/2004
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.ntsb.gov/pubdms/.		

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