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## Ground collision between two Airbus A320s, August 3, 2005

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**Micro-summary:** While taxiing to the gate, this Airbus A320 struck a company A320 being pushed back from its gate.

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**Event Date:** 2005-08-03 at 840 MDT


**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: DFW05IA200A		Aircraft Registration Number: N496UA	
		Occurrence Date: 08/03/2005		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Denver	State CO	Zip Code 80249	Local Time 0840	Time Zone MDT	
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Airbus		Model/Series A320-232		Type of Aircraft Airplane	
Sightseeing Flight: Yes			Air Medical Transport Flight: No		
Narrative					
<p>Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:</p> <p>On August 3, 2005, at 0840 mountain daylight time, an Airbus A320-232 airplane, N496UA, operated by United Airlines d/b/a Ted Airlines, sustained minor damage to its left winglet when it struck the tail cone of another Airbus A320-232, N472UA, d/b/a Ted Airlines, while taxiing to Gate A-48 on the south side of Concourse A at the Denver International Airport (DEN), near Denver, Colorado. Both airplanes were operated by and registered to United Airlines, of Chicago, Illinois. There were no injuries to the crew or passengers on either airplane. Visual meteorological conditions prevailed for the scheduled, domestic flight conducted under 14 Code of Federal Regulations Part 121. N472UA had been pushed back from Gate A-40 and was destined for Las Vegas, Nevada. N496UA had just arrived from Phoenix, Arizona.</p> <p>According to a Ted Airlines ramp supervisor, since gate A-40 was angled and adjacent to the center terminal building, the pushback was "doglegged" and company policy required two wing walkers to assist the tug operator. The pushback procedure required the tug operator to push the airplane straight back 5 or 6 feet, and then turn the airplane so its main landing gear wheels were perpendicular to and on the centerline of Taxiway AA. He said the purpose of placing the main landing gear wheels on the Taxiway AA centerline was to assure adequate clearance for airplane's taxiing on Taxiway AS. In addition, he said the wing walkers only responsibility was to ensure clearance between the airplane and vehicles on the ramp. They were not responsible for the airplane's position during pushback.</p> <p>In an interview, the tug operator stated that he pushed N472UA back so its main landing gear was placed just aft of the Taxiway AA centerline. After the airplane had been pushed back, and before the tug was released, ground crews placed about five more pieces of luggage into the cargo hold. After the luggage was loaded, the tug operator and wing walkers disconnected the tug and went inside the terminal. The tug operator did not see the collision and was later notified of the event.</p> <p>A witness, an airport engineer, observed N472UA as it was pushed back from Gate A-40, which was an angled gate (NE/SW) located immediately east of the center terminal. He watched the tug operator push the airplane back and also observed two wing walkers escorting the airplane. Though the witness could not confirm how far back the main landing gear wheels were positioned from the Taxiway AA centerline, he did say that it was "pushed back too far." He said the tug operator and two wing walkers then unhooked the tug and walked back to the terminal. During that time, N496UA was taxiing from west to east on Taxiway AS toward Gate A-48, and had just passed under the crossover bridge. The witness stated that N496UA's nose wheel was "definitely" on the Taxiway AS centerline as it taxied. As N496UA taxied behind N472UA, its left winglet cut through the bottom section of N472UA's tail cone, about one-foot aft of the APU maintenance doors.</p> <p>In a written statement, the flight crew from N496UA stated that they received clearance to transition from Taxiway AS and proceed eastbound on Taxiway AA to Gate A-48, which is beyond Gate</p>					
FACTUAL REPORT - AVIATION					
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National Transportation Safety Board

## FACTUAL REPORT

AVIATION

NTSB ID: DFW05IA200A

Occurrence Date: 08/03/2005

Occurrence Type: Incident

## Narrative (Continued)


A-40. As they taxied toward the crossover bridge, they noticed that N472UA was pushed back from the gate and "appeared to be out of position" reducing the normal clearance between the two aircraft. The flight crew elected to increase their wing tip clearance by moving to the right of the centerline approximately 5-6 feet just after they passed under the crossover bridge. As they approached N472UA, the Captain slowed the taxi speed to a crawl and determined there was sufficient clearance between the two aircraft. After crossing behind N472UA, N496UA taxied to Gate 48.


The flight crew aboard N472UA stated they felt a "slight movement" as N496UA taxied behind them. Immediately, the crew looked out the right cockpit window and observed no visible damage to N496UA's left wing. Shortly after, N472UA began to taxi when they were told to stop due to damage on the tail cone.

Examination of both airplanes revealed that N496UA sustained minor damage (scratches only) to the top of its left winglet, and N472UA sustained minor damage to the tail cone. The damage consisted of a tear in the skin about three feet forward of the aft-tip of the tail cone. The auxiliary power unit was not damaged.

A review of engineering drawings and measurements taken on the ramp revealed that if the main landing gear of an Airbus A320 was parked on the Taxiway AA centerline, and the nose wheel of an Airbus A320 was on the centerline of Taxiway AS, there would have been approximately 30 feet of clearance between the parked airplane's tail cone and a taxiing airplane's wingtip.

As a result of the incident, United Airlines agreed to install stop-blocks and gate identifiers at each gate on Concourse A. They also plan to work with DEN airport operations personnel to review and modify existing airport engineering drawings to properly reflect the addition of the stop-blocks. United Airlines will also revise pushback procedures to reflect the painted stop-blocks as the new stopping point.

 <b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b>		NTSB ID: DFW05IA200A				
		Occurrence Date: 08/03/2005				
		Occurrence Type: Incident				
<b>Landing Facility/Approach Information</b>						
Airport Name Denver International Airport		Airport ID: DEN	Airport Elevation 5431 Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type:						
Runway Surface Condition:						
Type Instrument Approach: NONE						
VFR Approach/Landing: None						
<b>Aircraft Information</b>						
Aircraft Manufacturer Airbus		Model/Series A320-232		Serial Number 1845		
Airworthiness Certificate(s): Transport						
Landing Gear Type: Retractable - Tricycle						
Homebuilt Aircraft? No		Number of Seats: 162	Certified Max Gross Wt. 170000 LBS		Number of Engines: 2	
Engine Type: Turbo Fan		Engine Manufacturer: International Aero Engines		Model/Series: V2527-A5	Rated Power: 27000 LBS	
- Aircraft Inspection Information						
Type of Last Inspection Continuous Airworthiness		Date of Last Inspection 07/2005	Time Since Last Inspection 182 Hours		Airframe Total Time 9616 Hours	
- Emergency Locator Transmitter (ELT) Information						
ELT Installed? No		ELT Operated? No		ELT Aided in Locating Accident Site? No		
<b>Owner/Operator Information</b>						
Registered Aircraft Owner United Air Lines		Street Address				
		City Chicago		State IL	Zip Code 60666	
Operator of Aircraft Same as Reg'd Aircraft Owner		Street Address Same as Reg'd Aircraft Owner				
		City		State	Zip Code	
Operator Does Business As: TED Airlines				Operator Designator Code: UALA		
- Type of U.S. Certificate(s) Held:						
Air Carrier Operating Certificate(s): Flag Carrier/Domestic						
Operating Certificate: Large Aircraft Operator			Operator Certificate:			
Regulation Flight Conducted Under: Part 121: Air Carrier						
Type of Flight Operation Conducted: Scheduled; Domestic; Passenger Only						
FACTUAL REPORT - AVIATION						

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: DFW05IA200A
	Occurrence Date: 08/03/2005
	Occurrence Type: Incident

**First Pilot Information**

Name On File	City On File	State On File	Date of Birth On File	Age 41
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Sex: F	Seat Occupied: Left	Principal Profession: Occupational Pilot	Certificate Number: On File
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Certificate(s): Airline Transport; Flight Instructor; Commercial

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): Airplane Single-engine

Type Rating/Endorsement for Accident/Incident Aircraft?	Current Biennial Flight Review? 02/2005
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Medical Cert.: Class 1	Medical Cert. Status: Without Waivers/Limitations	Date of Last Medical Exam: 05/2005
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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	8079	2182								
Pilot In Command(PIC)	5154	2182								
Instructor										
Last 90 Days		214								
Last 30 Days		74								
Last 24 Hours		2								

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	State	Airport Identifier	Departure Time	Time Zone
Phoenix	AZ	PHX	0555	PST
Destination	State	Airport Identifier		
Same as Accident/Incident Location		DEN		


Type of Clearance: None

Type of Airspace: Unknown

**Weather Information**

Source of Briefing:  
Unknown

Method of Briefing:

 <p><b>National Transportation Safety Board</b> <b>FACTUAL REPORT</b> <b>AVIATION</b></p>	NTSB ID: DFW05IA200A
	Occurrence Date: 08/03/2005
	Occurrence Type: Incident

**Weather Information**

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
DEN	1353	MDT	5431 Ft. MSL	NM	Deg. Mag.

Sky/Lowest Cloud Condition: Scattered 5000 Ft. AGL Condition of Light: Day

Lowest Ceiling: Broken 8500 Ft. AGL Visibility: 10 SM Altimeter: 30.15 "Hg

Temperature: 23 °C Dew Point: 9 °C Wind Direction: 240 Density Altitude: Ft.

Wind Speed: 8 Gusts: Weather Conditions at Accident Site: Visual Conditions

Visibility (RVR): Ft. Visibility (RVV) SM Intensity of Precipitation:

Restrictions to Visibility: No Obscuration; No Precipitation

Type of Precipitation:

**Accident Information**

Aircraft Damage: Minor Aircraft Fire: None Aircraft Explosion: None

Classification:

- 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				156	156
- TOTAL ABOARD -				162	162
Other Ground					
- GRAND TOTAL -				162	162

National Transportation Safety Board

**FACTUAL REPORT**

**AVIATION**



NTSB ID: DFW051A200A

Occurrence Date: 08/03/2005

Occurrence Type: Incident

Administrative Information

Investigator-In-Charge (IIC)

Leah D. Yeager

Additional Persons Participating in This Accident/Incident Investigation:

Dave Gonzales  
FAA  
Denver, CO

John McCoy  
United Airlines  
San Francisco, CA