



Aviation Investigation Final Report

Location:	Denver, Colorado	Incident Number:	DEN051A076
Date & Time:	May 17, 2005, 08:56 Local	Registration:	N305UA
Aircraft:	Boeing 737-322	Aircraft Damage:	Minor
Defining Event:		Injuries:	125 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

The two Boeing 737 company aircraft were involved in a ground collision while on the ramp. The first airplane, N305UA, was pushed straight back from its gate via a tug and wing walker. The airplane was disconnected from the tug and its engines were running. The pilots received hand signals from the tug operator releasing them from his guidance. The second airplane, N373UA, was being pushed back an adjacent gate via a tug and wing walker. The wing walker, who was positioned at the front of the right wing, stopped the pushback. The wing walker and tug operator had a brief discussion which resulted in the tug operator pulling the aircraft back toward the gate. The pilots of the first airplane visually cleared the area and began to taxi by turning to the west. During the turn, the left wing tip of the first airplane struck the right wing tip of the second company airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: the pilot's failure to maintain clearance resulting in the left wing of the aircraft striking the right wing of an adjacent aircraft. A factor in this incident was the improper procedure performed by the ground crew (of the second aircraft involved).

Findings

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

Findings

1. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
2. (F) IMPROPER USE OF PROCEDURE - GROUND PERSONNEL
3. OBJECT - AIRCRAFT PARKED/STANDING

Factual Information

On May 17, 2005, at 0856 mountain daylight time, a Boeing 737-322, N305UA, operated by United Air Lines, flight 229, sustained minor damage when it collided with N373UA, another Boeing 737-322 operated by United Air Lines, flight 424, while taxiing at Denver International Airport (DEN), Denver, Colorado. Visual meteorological conditions prevailed at the time of the incident. Both flights were being conducted with instrument flight rules flight plans under the provisions of 14 CFR Part 121. The 2 pilots, 3 flight attendants, and 120 passengers aboard flight 229 and the 2 pilots, 3 flight attendants and 57 passengers aboard flight 424 were not injured. The flights were originating at the time of the accident, and were en route to San Jose, California and Minneapolis Minnesota respectively.

N305UA had completed a straight pushback from gate B19 via a tug and wing walker. The airplane was disconnected from the tug and its engines were running. The pilots received hand signals from the tug operator releasing them from his guidance. N373UA was being pushed back from gate B21 via a tug and wing walker. The wing walker, who was positioned at the front of the right wing, stopped the pushback. The wing walker and tug operator had a brief discussion which resulted in the tug operator pulling the aircraft back toward the gate. The pilots of N305UA visually cleared the area and began to taxi by turning to the west. During the turn, the left wing tip of N305UA struck the right wing tip of N373UA. N373UA was positioned a reported "5 to 10 feet too far west" at the time of the accident.

Post-accident inspection by airline maintenance personnel revealed that the left wingtip of N305UA and the right wingtip of N373UA had scratches, dents, and broken navigation lights and lenses. There was no structural damage found to either aircraft.

Pilot Information

Certificate:	Airline transport	Age:	45, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	March 1, 2005
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 1, 2004
Flight Time:	6192 hours (Total, this make and model)		

Co-pilot Information

Certificate:	Airline transport	Age:	50, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	April 1, 2005
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	5766 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N305UA
Model/Series:	737-322	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	23666
Landing Gear Type:	Retractable - Tricycle	Seats:	127
Date/Type of Last Inspection:	Continuous airworthiness	Certified Max Gross Wt.:	130000 lbs
Time Since Last Inspection:		Engines:	2 Turbo fan
Airframe Total Time:	53316 Hrs	Engine Manufacturer:	General Electric
ELT:	Installed, not activated	Engine Model/Series:	CFM56-3-C1
Registered Owner:	United Air Lines	Rated Power:	20000 Lbs thrust
Operator:		Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	UALA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DEN,5431 ft msl	Distance from Accident Site:	
Observation Time:	08:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 6000 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 13000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.51 inches Hg	Temperature/Dew Point:	19°C / 1°C
Precipitation and Obscuration:			
Departure Point:	Denver, CO (DEN)	Type of Flight Plan Filed:	IFR
Destination:	San Jose, CA (SJC)	Type of Clearance:	Unknown
Departure Time:	08:56 Local	Type of Airspace:	Unknown

Airport Information

Airport:	Denver International Airport DEN	Runway Surface Type:	
Airport Elevation:	5431 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

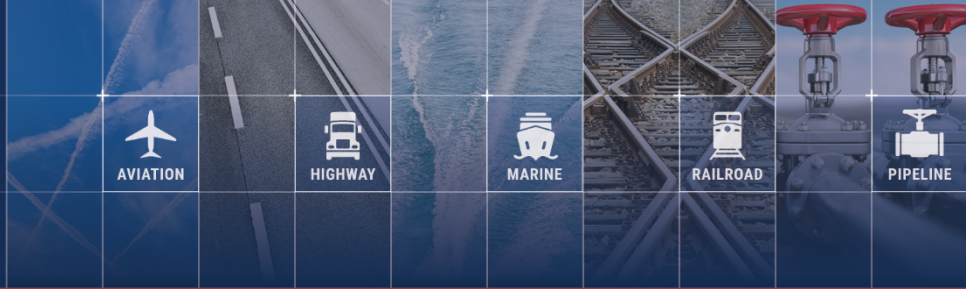
Crew Injuries:	125 None	Aircraft Damage:	Minor
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	125 None	Latitude, Longitude:	39.861667,-104.673057

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Gregory A Jones; Denver, Colorado
Original Publish Date:	October 27, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=61512

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).



Aviation Investigation Final Report

Location:	Denver, Colorado	Incident Number:	DEN051A076
Date & Time:	May 17, 2005, 08:56 Local	Registration:	N373UA
Aircraft:	Boeing 737-322	Aircraft Damage:	Minor
Defining Event:		Injuries:	62 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

The two Boeing 737 company aircraft were involved in a ground collision while on the ramp. The first airplane, N305UA, was pushed straight back from its gate via a tug and wing walker. The airplane was disconnected from the tug and its engines were running. The pilots received hand signals from the tug operator releasing them from his guidance. The second airplane, N373UA, was being pushed back an adjacent gate via a tug and wing walker. The wing walker, who was positioned at the front of the right wing, stopped the pushback. The wing walker and tug operator had a brief discussion which resulted in the tug operator pulling the aircraft back toward the gate. The pilots of the first airplane visually cleared the area and began to taxi by turning to the west. During the turn, the left wing tip of the first airplane struck the right wing tip of the second company airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: the improper use of procedure used by the ground personnel resulting in the right wing of the aircraft colliding with the left wing of another aircraft. A factor in this incident was the failure to maintain clearance by the flight crew of the other aircraft.

Findings

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

Findings

1. (C) CLEARANCE - NOT MAINTAINED - FLIGHTCREW OF OTHER AIRCRAFT
2. (F) IMPROPER USE OF PROCEDURE - GROUND PERSONNEL
3. OBJECT - AIRCRAFT MOVING ON GROUND

Factual Information

See narrative for DEN05IA076A.

Pilot Information

Certificate:	Airline transport; Flight engineer; Flight instructor	Age:	45, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	February 1, 2005
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 1, 2004
Flight Time:	7361 hours (Total, this make and model)		

Co-pilot Information

Certificate:	Airline transport; Flight engineer	Age:	39, Male
Airplane Rating(s):	Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	July 1, 2004
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	July 1, 2004
Flight Time:	5323 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	N373UA
Model/Series:	737-322	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	24638
Landing Gear Type:	Retractable - Tricycle	Seats:	125
Date/Type of Last Inspection:	Continuous airworthiness	Certified Max Gross Wt.:	130000 lbs
Time Since Last Inspection:		Engines:	2 Turbo fan
Airframe Total Time:	45202 Hrs	Engine Manufacturer:	General Electric
ELT:		Engine Model/Series:	CFM56-3-C1
Registered Owner:	Wilmington Trust Co.	Rated Power:	20000 Lbs thrust
Operator:	On File	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	UALA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DEN,5431 ft msl	Distance from Accident Site:	
Observation Time:	08:53 Local	Direction from Accident Site:	
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Lowest Ceiling:	Broken / 13000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.51 inches Hg	Temperature/Dew Point:	19°C / 1°C
Precipitation and Obscuration:			
Departure Point:	Denver, CO (DEN)	Type of Flight Plan Filed:	IFR
Destination:	Minneapolis, MN (MSP)	Type of Clearance:	IFR
Departure Time:	08:56 Local	Type of Airspace:	

Airport Information

Airport:	Denver International Airport DEN	Runway Surface Type:	
Airport Elevation:	5431 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	5 None	Aircraft Damage:	Minor
Passenger Injuries:	57 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	62 None	Latitude, Longitude:	39.861667,-104.673057

Administrative Information

Investigator In Charge (IIC): Scott, Arnold

Additional Participating Persons: Gregory A Jones; Denver, Colorado

Original Publish Date: October 27, 2005

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=61512>

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