
Ground collision between tug and McDonnell Douglas MD-80, December 5, 1996

Micro-summary: This McDonnell Douglas MD-80 struck a tug and baggage cart while taxiing.

Event Date: 1996-12-05 at 2000 AST


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


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

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		NTSB ID: ANC97IA011		Aircraft Registration Number: N954AS	
		Occurrence Date: 12/05/1996		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place ANCHORAGE		State AK	Zip Code 99502	Local Time 2000	Time Zone AST
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer McDonnell Douglas		Model/Series MD-80		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 December 5, 1996, at 2000 Alaska standard time, a McDonnell Douglas MD-80 airplane, N954AS, operating as Alaska Airlines Flight 196, struck a tug and baggage cart while attempting to taxi for takeoff. The scheduled air carrier flight, operating under 14 CFR Part 121, was departing Anchorage, Alaska, and the destination was Seattle, Washington. An instrument flight rules flight plan was filed and visual meteorological conditions prevailed at Anchorage. There were no injuries to the flight crew of 2, 1 jumpseat rider, 3 cabin attendants, 106 passengers, and 3 ground personnel. The airplane received minor damage.</p> <p>According to the Alaska Airlines Anchorage station manager, the airplane was pushed back from the gate, the tug was disconnected, and the engines were started. The push back tug drove away to the gate. Another tug towing a baggage cart with 3 pieces of late cargo drove up to the mid cargo compartment on the right side of the airplane. The baggage tug driver and the right side wing walker began to load the cargo in the mid section cargo compartment. One piece of cargo would not fit. They began to carry the cargo to the forward cargo compartment. The left side wing walker, who had been standing in front of the airplane and was considered to be the marshaller, walked to the forward cargo bin and opened the door and began to assist in the loading. The airplane began taxiing and the right wing struck the tug which had parked in front of the right wing.</p> <p>In a statement submitted by the Captain, he said that during the entire push back and release sequence, there were no ground handlers with wands visible, nor was anyone wearing the required brightly colored safety vests. During the interviews with the ground handlers and their supervisor, they stated they were wearing the required vests and the left wing walker, known as the marshaller, had two battery operated wands. The Captain continued his statement to say that he was told to start engines during the pushback. He was then told to set brakes. The Captain acknowledged, set the brakes and stated through the intercom that he would standby for hand signals. According to the Captain, there was no response from the push back tug driver. The push back tug then pulled away from the airplane and drove off to the terminal. The Captain and First Officer finished the after start check, called for and received their taxi instructions, turned on the nose gear taxi light, cleared the area, and then began to taxi. As the airplane began to move the Captain and First Officer noticed two ramp personnel running from the right side of the airplane signaling the airplane to stop. The Captain stopped the airplane and set the brakes.</p> <p>According to a statement submitted by the First Officer, he was completing duties inside the cockpit and when he looked up the push back tug and marshaller were both gone. He called for taxi clearance and the airplane began to move. The First Officer then saw a man running on his right side with his arms crossed. The Captain stopped the airplane.</p> <p>During interviews with the ground personnel, it was determined that all wing walkers were trained to marshal the airplanes to and from the gates. The ground personnel were not aware of any</p>					
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Narrative (Continued)

procedure that outlined specifically which wing walker would act as the marshaller. The ground crews stated that it is usually decided between the wing walkers just prior to pushback. The left wing walker was the marshaller in this incident.

According to the Alaska Airlines Customer Services Manual, the ground agent is responsible for the aircraft's safe departure. That person will ensure that wing walkers are in sight during aircraft departure. The manual states that headset communication between the ground and cockpit is required when a tug/towbar are used for aircraft movement. According to the interviews, headset communication was established. However, according to the Alaska Airlines Safety Manager, the headset interface between the tugs and the MD-80 airplane are very weak and sometimes unreadable.

The manual continues to state that on airplanes without a serviceable interphone, the "ground marshaller" will position himself forward of the left wing tip in plain sight of the cockpit left seat occupant for hand signaling.

The customer services manual, flight dispatching procedures allows cargo to be loaded after the engines have been started and/or the airplane has been pushed back. The manual lists several conditions as follows: 1. The ground agent establishes and maintains communication with the flight crew during the loading process. 2. The engine on the same side of the aircraft as the loading door (right side) is NOT operating.

Note: With permission from the Captain, the forward and mid compartments of the MD80 may be loaded with the #2 engine running. The Captain may shut down the right engine of any type aircraft to allow loading.

3. The ground agent will push the aircraft back to a clear ramp area, will center the nose wheel landing gear while slowly bringing the aircraft to a stop, and will advise the flight crew "set brakes." The flight crew will set the parking brakes and advise the ground agent "brakes set." Barring any unusual conditions, which will be stated by the flight crew, the ground agent will then be advised to "disconnect the towbar" and "go to hand signals." 4. After disconnecting the interphone, the ground agent will disconnect the towbar from the tug, and move the tug 3 to 4 feet away from the towbar.... 5. The ground marshaller will hold the aircraft in a stationary position until all ground equipment and ground personnel are clear of the aircraft. 6. The ground marshaller will direct the taxiing out with the standard hand signals and will remain at the aircraft until released by the flight crew with a salute or flashing of aircraft lights, preferably the nose wheel light.

According to the ground crew interviews, no one gave any hand signals to the cockpit to indicate everyone was clear. There was no interphone communication with the cockpit once the towbar was disconnected, and none of the ground crew saw any signal, either a salute or the nose wheel light, to indicate the airplane was about to move. The ground crew stated that they did not communicate to the Captain that they were going to load late cargo in the mid and forward cargo compartments.

According to the Alaska Airlines Flight Operations manual, after push back is completed and the towbar disconnected, the ramp signalman shall move to a position toward the left wing tip and execute a wave off signal or taxi hand signal to the Captain. The flight operations manual also states that the lower cargo deck may be loaded after engine start and/or push back. The flight manual reiterates that communication with the cockpit must be established and maintained during the loading process.

The flight manual contains a section titled pushback stop. In that section, it lists an alternate method of contacting the ground crew should stopping during push back be needed. That method is to flash the nose wheel taxi light. Where verbal communications is not possible, standard hand signals will be used.

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According to the flight crew statements, they did not receive a wave off, nor did they, the flight crew, salute anyone or flash the nose wheel light. They stated that the push back tug and the ground marshaller left.

According to the ground marshaller, he was located to the front left of the airplane in full view of the cockpit until he ran under the airplane's nose to help load the forward cargo compartment. As he left his station to help, he took the battery operated wands and stuck them in his waistband.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: ANC97IA011				
		Occurrence Date: 12/05/1996				
		Occurrence Type: Incident				
Landing Facility/Approach Information						
Airport Name ANCHORAGE INTERNATIONAL		Airport ID: ANC	Airport Elevation 144 Ft. MSL	Runway Used 0	Runway Length	Runway Width
Runway Surface Type: Asphalt						
Runway Surface Condition: Dry						
Type Instrument Approach: NONE						
VFR Approach/Landing: None						
Aircraft Information						
Aircraft Manufacturer McDonnell Douglas		Model/Series MD-80		Serial Number 49387		
Airworthiness Certificate(s): Transport						
Landing Gear Type: Retractable - Tricycle						
Homebuilt Aircraft? No		Number of Seats: 137	Certified Max Gross Wt. 149500 LBS		Number of Engines: 2	
Engine Type: Turbo Jet		Engine Manufacturer: P&W		Model/Series: JT8D-217	Rated Power: 20850 LBS	
- Aircraft Inspection Information						
Type of Last Inspection Continuous Airworthiness		Date of Last Inspection	Time Since Last Inspection Hours		Airframe Total Time Hours	
- Emergency Locator Transmitter (ELT) Information						
ELT Installed?		ELT Operated?		ELT Aided in Locating Accident Site?		
Owner/Operator Information						
Registered Aircraft Owner ALASKA AIRLINES, INC.		Street Address P.O. BOX 68900				
		City SEATTLE		State WA	Zip Code 98168	
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:				Operator Designator Code: ASAA		
- 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 Only						
FACTUAL REPORT - AVIATION						

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: ANC971A011
	Occurrence Date: 12/05/1996
	Occurrence Type: Incident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 55
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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; Flight Engineer

Airplane Rating(s): Multi-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: 09/1996
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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	19485	4987		4987						
Pilot In Command(PIC)	6120	2050								
Instructor										
Last 90 Days	170									
Last 30 Days	72									
Last 24 Hours	5									

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? Yes	Second Pilot? Yes
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Flight Plan/Itinerary

Type of Flight Plan Filed: IFR	
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Departure Point Same as Accident/Incident Location	State	Airport Identifier ANC	Departure Time 0000	Time Zone
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Destination SEATTLE	State WA	Airport Identifier SEA	
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Type of Clearance: VFR

Type of Airspace: Class C

Weather Information

Source of Briefing:
Company

Method of Briefing:

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
ANC	1952	AST	144 Ft. MSL	1 NM	330 Deg. Mag.
Sky/Lowest Cloud Condition: Scattered			4500 Ft. AGL	Condition of Light: Night/Dark	
Lowest Ceiling: Unknown			0 Ft. AGL	Visibility: 20 SM	Altimeter: 29.00 "Hg
Temperature: -11 °C	Dew Point: -6 °C	Wind Direction: 360		Density Altitude: Ft.	
Wind Speed: 16	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					

Accident Information		
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				3	3
Other Crew				1	1
Passengers				106	106
- TOTAL ABOARD -				112	112
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	112	112

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FACTUAL REPORT

AVIATION



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Occurrence Date: 12/05/1996

Occurrence Type: Incident

Administrative Information

Investigator-In-Charge (IIC)

GEORGE KOBELNYK

Additional Persons Participating in This Accident/Incident Investigation:

AUSTIN COLLER
ANCHORAGE, FSDO 03
ANCHORAGE, AK 99502