



# National Transportation Safety Board Aviation Incident Final Report

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<b>Location:</b>	SEATTLE, WA	<b>Incident Number:</b>	SEA001A062
<b>Date &amp; Time:</b>	04/01/2000, 2000 PST	<b>Registration:</b>	N934AS
<b>Aircraft:</b>	McDonnell Douglas MD-82	<b>Aircraft Damage:</b>	None
<b>Defining Event:</b>		<b>Injuries:</b>	145 None

**Flight Conducted Under:** Part 121: Air Carrier - Scheduled

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## Analysis

The MD-82 aircraft was parked at gate C-9 at night with the jetway still attached, and most of the passengers had boarded. The aircraft's APU was inoperative and electrical power was being supplied by an external ground power unit. Additionally, cabin air conditioning was being provided by an external ground source through the aircraft's right engine air conditioning system. Electrical ground power then failed resulting in the aircraft's cabin lights going out and the emergency floor track lights automatically illuminating. Smoke/fumes from the electrical ground power cart exhaust were pulled into the aircraft's cabin through the external ground source. Passengers and crew noted the smoke and then evacuated the aircraft via the forward, left cabin door (L-1) through the jetway and into the terminal without injury.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: Contaminated air being ducted into the aircraft's cabin from the engine exhaust of a nearby ground power cart.

## Findings

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Occurrence #1: MISCELLANEOUS/OTHER  
Phase of Operation: STANDING - ENGINE(S) NOT OPERATING

### Findings

1. (C) AIR COND/HEATING/PRESSURIZATION - CONTAMINATION
2. FUSELAGE,CABIN - SMOKE

## Factual Information

On April 1, 2000, approximately 2000 Pacific standard time, a McDonnell Douglas MD-82, N934AS, registered to Wilmington Trust Company, operated by Alaska Airlines, Inc., and crewed by two airline transport pilots (captain and first officer) and three cabin attendants, was undamaged during an emergency evacuation at gate C-9 at the Seattle-Tacoma International Airport, Seattle, Washington. Visual meteorological night conditions existed and an IFR flight plan had been filed. None of the 140 passengers or crew aboard were injured during their egress and there was no fire. The flight, operating as flight 660, destined for Las Vegas, Nevada, was scheduled to depart at 1953, and was to have been operated under 14CFR121 as a regularly scheduled, domestic passenger flight. The aircraft was parked at gate C-9 with the jet ramp still connected to exit L-1 at the time of the event.

The Captain's irregularity report stated that "Gnd pwr failed, cabin being ventilated with gnd tie thru rt pack. APU inop. Cabin filled with smoke, passengers deplaned fwd entry. Due to no power, aft flt attendant deployed left aft slide."

One of the three flight attendants was stationed aft near row 24 and reported that the boarding of the aircraft was almost complete when the cabin lights went out and the (emergency) track lights illuminated. The flight attendant remarked to the passengers that "our ground power must have disconnected..." and shortly thereafter one passenger stated "I smell burning, don't you?" and another passenger remarked "I smell it also."

The flight attendant then attempted to contact the cockpit via the interphone without success. She stated that "by this time smoke was coming into the cabin..." and she began to urge the passengers to exit the aircraft.

The flight attendant stated that passengers were beginning to panic and were not moving up the center aisle. She then returned to the interphone (located near the galley area at exit L-2, refer to DIAGRAM I) and again attempted to contact the cockpit without success. After unsuccessfully trying to communicate via the aircraft public address system, the flight attendant chose to open exit L-2 and activate the emergency escape slide.

Upon opening the door she realized the emergency escape slide had not been armed whereupon she re-closed the door, armed the slide, and re-opened the door resulting in the slide deploying (Note: emergency escape slides are not normally armed until after the aircraft leaves the gate as a ground safety procedure).

A nearby passenger then indicated that passengers were moving up the aisle. The flight attendant began to urge everyone forward up the center aisle towards exit L-1, rather than utilizing the escape slide, so as to minimize injuries during egress. All passengers and crew left the aircraft via exit L-1 and the emergency escape slide was unused.

The aircraft was subsequently checked and released for the flight to Las Vegas with the same cockpit crew and a new cabin crew. A maintenance examination disclosed no evidence of any aircraft related cause for the smoke. Additionally, maintenance personnel reported that the external air conditioning unit's intake pulled exhaust from the nearby electrical ground power cart and this air/exhaust mixture was then ducted into the aircraft cabin.

## Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Engineer	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	01/03/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	12090 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	McDonnell Douglas	<b>Registration:</b>	N934AS
<b>Model/Series:</b>	MD-82 MD-82	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	49235
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	146
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	140000 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo Fan
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	P&W
<b>ELT:</b>		<b>Engine Model/Series:</b>	JT8D
<b>Registered Owner:</b>	WILMINGTON TRUST COMPANY	<b>Rated Power:</b>	77000 lbs
<b>Operator:</b>	ALASKA AIRLINES, INC.	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	ASAA

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	SEA, 429 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1956 PDT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 20000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	11 °C / 7 °C
Precipitation and Obscuration:			
Departure Point:	(SEA)	Type of Flight Plan Filed:	IFR
Destination:	LAS VEGAS, NV (LAS)	Type of Clearance:	
Departure Time:	0000	Type of Airspace:	

## Airport Information

Airport:	SEATTLE-TACOMA INTNL (SEA)	Runway Surface Type:	
Airport Elevation:	429 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	5 None	Aircraft Damage:	None
Passenger Injuries:	140 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	145 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	STEVEN A MCCREARY	Report Date:	01/02/2001
Additional Participating Persons:	OVE S LARSEN; RENTON, WA		
Publish Date:			
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).