



# National Transportation Safety Board Aviation Incident Final Report

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<b>Location:</b>	Wichita, KS	<b>Incident Number:</b>	DEN081A022
<b>Date &amp; Time:</b>	11/02/2007, 0527 CST	<b>Registration:</b>	N880UP
<b>Aircraft:</b>	Douglas DC-8-73F	<b>Aircraft Damage:</b>	Minor
<b>Defining Event:</b>		<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Non-scheduled		

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## Analysis

The airplane was in cruise flight when the crew detected a strange odor. When the captain opened the cockpit door, he saw smoke in the courier area. The crew donned oxygen masks, declared an emergency, and diverted to the nearest suitable airport. The crew then noticed heavy smoke coming from the lavatory and heard a motor running continuously. The captain discharged a Halon fire extinguisher into the lavatory compartment and the smoke subsided. Post-incident examination revealed the lavatory fan functioned normally, but the recirculation fan, located beneath the lavatory, had seized. The motor end ball bearing, located below the fan rotor, had failed, allowing the motor rotor to make contact with the motor stator.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: Failure of the recirculation fan motor end ball bearing.

## Findings

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Occurrence #1: MISCELLANEOUS/OTHER  
Phase of Operation: CRUISE - NORMAL

### Findings

1. (C) MISC EQPT/FURNISHINGS,LAVATORIES - SEIZED
2. (C) MISC EQPT/FURNISHINGS,LAVATORIES - SMOKE

## Factual Information

On November 2, 2007, at 0527 central standard time, a Douglas DC-8-73F, N880UP, registered to and operated by United Parcel Service (UPS), Louisville, Kentucky, made an emergency landing at Wichita Mid-Continent Airport (ICT), Wichita, Kansas, after smoke filled the cockpit. Visual meteorological conditions (VMC) prevailed at the time of the incident. The non-scheduled domestic cargo flight was being conducted under the provisions of Title 14 Code of Federal Regulations (CFR) Part 121, and an instrument flight rules (IFR) flight plan had been filed and activated. The captain, first officer, flight engineer, and a jump seat occupant were not injured. The cross-country flight originated at Louisville (SDF), Kentucky, at 0513 eastern standard time, and was en route to Ontario International Airport (ONT), Ontario, California.

According to the incident report submitted by UPS, the airplane was in cruise flight about 150 miles east of ICT when the crew detected a strange odor. When they opened the cockpit door, they saw smoke in the courier area. The crew donned oxygen masks, declared an emergency, and diverted to ICT. The crew then noticed heavy smoke coming from the lavatory and heard a motor running continuously. The captain discharged a Halon fire extinguisher into the lavatory compartment and the smoke subsided.

On January 30, 2008, the lavatory fan and recirculation fan were disassembled and examined under the auspices of FAA's Flight Standards District Office in SDF. According to UPS's Aircraft Engineering Report, the lavatory fan functioned normally. Examination of the recirculation fan (m/n AVRF85-62D1779), however, revealed the motor (p/n 941D601-1) had seized. Further examination revealed the end ball bearing (p/n P8C7706-19) located below the fan rotor had failed, allowing the motor rotor to make contact with the motor stator.

## Pilot Information

<b>Certificate:</b>	Airline Transport; Commercial	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last Medical Exam:</b>	06/01/2007
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	06/01/2007
<b>Flight Time:</b>	2441 hours (Pilot In Command, all aircraft), 68 hours (Last 90 days, all aircraft), 18 hours (Last 30 days, all aircraft)		

## Co-Pilot Information

Certificate:	Airline Transport	Age:	32, Female
Airplane Rating(s):	Multi-engine Land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 With Waivers/Limitations	Last Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	04/01/2007
Flight Time:	1225 hours (Total, this make and model)		

## Flight Engineer Information

Certificate:	Flight Engineer	Age:	, Male
Airplane Rating(s):		Seat Occupied:	Center
Other Aircraft Rating(s):		Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):		Second Pilot Present:	Yes
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	2711 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Douglas	Registration:	N880UP
Model/Series:	DC-8-73F	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	46080
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:		Certified Max Gross Wt.:	287000 lbs
Time Since Last Inspection:		Engines:	4 Turbo Fan
Airframe Total Time:		Engine Manufacturer:	
ELT:	Not installed	Engine Model/Series:	
Registered Owner:	United Parcel Service	Rated Power:	
Operator:	United Parcel Service	Air Carrier Operating Certificate:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	UPSA

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	ICT, 1333 ft msl	Observation Time:	0553
Distance from Accident Site:		Condition of Light:	Dawn
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	3°C / -1°C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	Calm	Visibility (RVR):	
Altimeter Setting:	30.13 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Louisville, KY (SDF)	Type of Flight Plan Filed:	IFR
Destination:	Ontario, CA (ONT)	Type of Clearance:	IFR
Departure Time:	0513 EST	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Minor
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 None		

## Administrative Information

Investigator In Charge (IIC):	Arnold W Scott	Adopted Date:	03/31/2008
Additional Participating Persons:	Juan Estrella; FAA Flight Standards District Office; Wichita, KS Terry Smith; FAA Flight Standards District Office; Louisville, KY		
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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