
Main landing gear failure, Boeing 727-200, August 31, 1998

Micro-summary: On takeoff, this Boeing 727-200 experienced a failure of the right main landing gear after making an emergency landing due to a failure of the #2 engine.


Event Date: 1998-08-31 at 2235 EDT


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


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

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 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: DCA98MA084		Aircraft Registration Number: N722DH	
		Occurrence Date: 08/31/1998		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place JAMAICA		State NY	Zip Code	Local Time 2235	Time Zone üÇn
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 727-200		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 August 31, 1998, about 1035 eastern daylight time, a Boeing 727-200, N722DH, operated by DHL Worldwide Express as flight 1165, experienced a failure of the right main landing gear (MLG) shortly after making an emergency landing at John F. Kennedy International Airport, Jamaica, New York. The flight was operating under 14 Code of Federal Regulations Part 121 as a regularly scheduled cargo flight from New York to Cincinnati, Ohio. Shortly after takeoff, the No. 2 engine failed and shutdown procedures for the No. 2 engine were accomplished. The flight crew declared an emergency and requested to return to the airport. On approach,</p> <p>an engine out go-around was required as ATC had instructed the flight crew of a B-747 to "position and hold" on the end of the runway. The first officer was the pilot flying. Following an uneventful[Haueter Tom] go around and touchdown, as the airplane slowed to about 80 knots, the captain took control of the airplane. Shortly thereafter, the right MLG collapsed and the airplane slid to a stop on the runway. None of the three flight crewmembers and two jumpseat passengers aboard were injured.</p> <p>Examination of the No. 2 engine revealed that 80 percent of the main fuel pump main drive shaft was worn to the spline root. The examination also revealed that the grease used to lubricate the main drive shaft output splines was not the authorized grease specified per OHM 73-11-1 or MIL-G-81322. Additionally, the magnetic seal compression O-ring that rides on the drive gear journal outer diameter was hardened and exhibited inner diameter axial cracks.</p> <p>The component manufacturer indicated that the failure of the magnetic seal was the first such reported incident in 30 years; however, it agreed to review operational data from airlines to reevaluate the mean time between overhaul intervals for the seal and to recommend an inspection interval, as necessary.</p> <p>Examination of the right MLG revealed a fracture failure of the trunnion bearing support fitting that was caused by fatigue cracking and stress corrosion cracking.</p> <p>As a result of this accident, the Safety Board issued Safety Recommendation A-99-4, which asked the Federal Aviation Administration to "require operators of all Boeing 727 series airplanes to (1) conduct periodic ultrasonic inspections of the main landing gear (MLG) forward trunnion bearing support fittings for corrosion, cracks, and stress corrosion cracking; (2) repair or replace these fittings if they are cracked or corroded; and (3) ensure that a proper moisture barrier is applied on new or existing MLG forward trunnion bearing support fittings to minimize corrosion."</p> <p>On October 2, 2001, the Federal Aviation Administration issued Airworthiness Directive (AD) 2001-20-09. AD 2001-20-09 is applicable to all Boeing 727 series airplanes and requires repetitive ultrasonic inspections of the bearing support fitting of the forward trunnion on the MLG to detect corrosion and cracking, follow-on actions if necessary, and repair/rework of the support fitting.</p>					
FACTUAL REPORT - AVIATION					
					Page 1

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: DCA98MA084			
		Occurrence Date: 08/31/1998			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
JOHN F KENNEDY INTL	JFK	Ft. MSL	22R	11351	150
Runway Surface Type: Macadam					
Runway Surface Condition: Dry					
Type Instrument Approach: ILS-complete					
VFR Approach/Landing:					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Boeing		727-200		19861	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 5	Certified Max Gross Wt.	177600 LBS	Number of Engines: 3	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Jet	P&W	JT8D-7B	14000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness	10/1996	2364 Hours	50861 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
DHL AIRWAYS INC		333 Twin Dolphin Dr.			
		City	State	Zip Code	
		Redwood	CA	94065	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		City	State	Zip Code	
Operator Does Business As:			Operator Designator Code: DHLA		
- 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: Non-scheduled; Domestic; Cargo					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: DCA98MA084
	Occurrence Date: 08/31/1998
	Occurrence Type: Accident

First Pilot Information				
Name On File	City	State On File	Date of Birth On File	Age 52

Sex: M	Seat Occupied: Left	Principal Profession: Civilian Pilot	Certificate Number:
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Certificate(s): Airline Transport; Commercial

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

Rotorcraft/Glider/LTA: Helicopter

Instrument Rating(s): Airplane; Helicopter

Instructor Rating(s):

Type Rating/Endorsement for Accident/Incident Aircraft? Yes	Current Biennial Flight Review? 05/1998
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Medical Cert.: Class 1	Medical Cert. Status: With Waivers/Limitations	Date of Last Medical Exam: 05/1998
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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	16000	5000								
Pilot In Command(PIC)		4800								
Instructor										
Last 90 Days	160	160		160						
Last 30 Days	52	52		52						
Last 24 Hours	1	1		1						

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	Departure Time 2200	Time Zone
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Destination COVINGTON/CINCI	State KY	Airport Identifier CVG	
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Type of Clearance: IFR

Type of Airspace: Class B

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
	0000		0 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Clear				Ft. AGL	Condition of Light: Night/Dark
Lowest Ceiling: Unknown			Ft. AGL	Visibility: 10 SM	Altimeter: 29.94 "Hg
Temperature: 21 °C	Dew Point: 20 °C	Wind Direction: 220			Density Altitude: Ft.
Wind Speed: 5	Gusts:	Weather Conditions at Accident Site:			
Visibility (RVR): 0 Ft.	Visibility (RVV) 0 SM	Intensity of Precipitation:			
Restrictions to Visibility:					
Type of Precipitation: None					

Accident Information		
Aircraft Damage: Substantial	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				1	1
Cabin Attendants					
Other Crew				2	2
Passengers					
- TOTAL ABOARD -				5	5
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	5	5

National Transportation Safety Board

FACTUAL REPORT
AVIATION



NTSB ID: DCA98MA084

Occurrence Date: 08/31/1998

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

Robert Macintosh

Additional Persons Participating in This Accident/Incident Investigation:

VICTORIA ANDERSON