
Wheel separation, Boeing 727-2K5, N900PG, March 10, 1997

Micro-summary: A main landing gear wheel on this Boeing 727 separated on takeoff.

Event Date: 1997-03-10 at 1321 CST


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


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


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		NTSB ID: FTW97IA119		Aircraft Registration Number: N909PG	
		Occurrence Date: 03/10/1997		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place DFW AIRPORT		State TX	Zip Code 75261	Local Time 1321	Time Zone CST
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Boeing		Model/Series 727-2K5		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 March 10, 1997, at 1321 central standard time, a Boeing 727-2K5, N909PG, registered to Pegasus at San Francisco, California, operated by Aeromexpress as a Title 14 CFR Part 129 on demand cargo flight, experienced the separation of the number 3 main landing gear wheel during the takeoff at Dallas/Fort Worth International Airport, DFW Airport, Texas. Visual meteorological conditions prevailed and an instrument flight plan was filed. The 4 crew members were not injured and the airplane sustained minor damage.</p> <p>Air Traffic Control personnel reported that the flight departed runway 35R with a planned destination of Mexico City, Mexico. During the departure climb, ATC personnel informed the crew that a wheel assembly had departed the aircraft. The crew reported to ATC that all cockpit indications were normal and they would return to the DFW Airport for landing. The flight landed on runway 35L without further incident.</p> <p>Aeromexpress has operated the aircraft since July 1994, under an approved foreign air carrier aircraft maintenance program for 6,783:30 hours with 2,709 cycles. The last installation of the wheel and brake was accomplished on February 10, 1997. Total aircraft time was 40,423.07 hours with 17,036 cycles at the time of the wheel separation.</p> <p>Inspection of the wheel by the FAA inspector and the investigator-in-charge revealed that the outer bearing race, retainer ring, and axle were damaged and the inner ring of the outer wheel bearing exhibited deformation, rubbing, cracking, and galling. None of the bearing rollers were recovered.</p> <p>Metallurgical examination at Boeing disclosed that the inner wheel bearing of the right hand inboard main landing gear wheel assembly migrated approximately 1.5 inches in the inboard direction. The outer bearing ring showed rub damage on the circumference of the inner and outer diameter and the bearing cage. The bolt that locked the wheel retaining nut was fractured; however, it could not be determined if the fracture of the bolt contributed to or was the result of the bearing damage. The inner ring of the outer wheel bearing displayed heat damage and localized melting. The damage of the inner ring "appeared to be more consistent with bearing deterioration caused by inadequate or loss of preloading rather than a bearing seizure event." See the enclosed report for details of the examination.</p>					
FACTUAL REPORT - AVIATION					
					Page 1

		NTSB ID: FTW97IA119			
		Occurrence Date: 03/10/1997			
		Occurrence Type: Incident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
DFW INTERNATIONAL	DFW	603 Ft. MSL	36R	11387	200
Runway Surface Type: Concrete					
Runway Surface Condition: Dry					
Type Instrument Approach: NONE					
VFR Approach/Landing: Precautionary Landing					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Boeing		727-2K5		21853	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 5	Certified Max Gross Wt.	197700 LBS	Number of Engines: 3	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	P&W	JT8D-17	16000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
AAIP	03/1907	2585 Hours	40423 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated? Yes	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
		FOUR EMBARCADERO CTR., #3540			
PEGASUS		City	State	Zip Code	
		SAN FRANCISCO	CA	94111	
Operator of Aircraft		Street Address			
		AV. TEXCOCO S/N ESQ. AV. TAHEL			
AEROMEXPRESS		City	State	Zip Code	
		MEXICO CITY	OF	15260	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 129: Foreign					
Type of Flight Operation Conducted: Non-scheduled; International; Cargo					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: FTW97IA119
	Occurrence Date: 03/10/1997
	Occurrence Type: Incident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 45
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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

Airplane Rating(s): Multi-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): Airplane Multi-engine

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--no waivers/lim.	Date of Last Medical Exam: 07/1996
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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	8000	3727		7500	7000					
Pilot In Command(PIC)	5000									
Instructor	3000									
Last 90 Days	150									
Last 30 Days	50									
Last 24 Hours										

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? No	Second Pilot? Yes
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Flight Plan/Itinerary

Type of Flight Plan Filed: IFR

Departure Point Same as Accident/Incident Location	State	Airport Identifier DFW	Departure Time 1321	Time Zone CDT
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Destination MEXICO CITY	State OF	Airport Identifier MEX	
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Type of Clearance: IFR

Type of Airspace: Class B

Weather Information

Source of Briefing: National Weather Service

Method of Briefing:

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: FTW971A119
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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: **Unknown** 0 Ft. AGL Condition of Light: Day

Lowest Ceiling: **Broken** 5500 Ft. AGL Visibility: 10 SM Altimeter: 30.00 "Hg

Temperature: **15 °C** Dew Point: 8 °C Wind Direction: 20 Density Altitude: Ft.

Wind Speed: **5** 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				1	1
Cabin Attendants					
Other Crew				1	1
Passengers					
- TOTAL ABOARD -				4	4
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	4	4

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: FTW97IA119

Occurrence Date: 03/10/1997

Occurrence Type: Incident

Administrative Information

Investigator-In-Charge (IIC)

JOYCE M. SMITH

Additional Persons Participating in This Accident/Incident Investigation:

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DFW AIRPORT, TX 75261