
Wheel separation on takeoff involving a Boeing 737-3H4 at Lubbock on August 18, 1995

Micro-summary: A main wheel on this Boeing 737-300 separated on takeoff.


Event Date: 1995-08-18 at 1155 CDT


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


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

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		NTSB ID: FTW95IA348		Aircraft Registration Number: N309SW	
		Occurrence Date: 08/18/1995		Most Critical Injury: None	
		Occurrence Type: Incident		Investigated By: NTSB	
Location/Time					
Nearest City/Place LUBBOCK		State TX	Zip Code 79400	Local Time 1155	Time Zone CDT
Airport Proximity: On Airport		Distance From Landing Facility:		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer BOEING		Model/Series 737-3H4		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 18, 1995, at 1155 central daylight time, a Boeing 737- 3H4, N309SW, sustained minor damage as the number three main wheel separated from the axle on gear retraction during takeoff from Lubbock International Airport (LBB), Lubbock, Texas. The crew of five and 109 passengers were not injured. Visual meteorological conditions prevailed for the Southwest Airlines Flight 866, scheduled Title 14 CFR Part 121 flight to Albuquerque, New Mexico.</p> <p>Personnel in the Lubbock Air Traffic Control (ATC) Tower observed the number three right main wheel depart the aircraft. During the aircraft's climb, the tower informed the crew of the event. The crew reported to ATC that they would continue the flight to the destination. Upon arrival at Albuquerque (ABQ), New Mexico, the crew landed the aircraft and taxied to the ramp without further incident.</p> <p>Examination of the aircraft at Albuquerque by company maintenance personnel and a Federal Aviation Administration (FAA) inspector revealed the axle nut was intact on the axle along with the tang washer. The axle nut locking ring was also in place. The outer bearing was found deteriorated with only its inner race remaining. The inner bearing was still intact on the axle. Company maintenance records indicated the wheel assembly was last replaced on August 16, 1995.</p> <p>Examination of the wheel components by company maintenance personnel, a FAA inspector, and the investigator-in-charge, revealed that an incorrect inner bearing had been installed on the number three wheel assembly. A Timkin part number 594 bearing was installed in lieu of the correct Timkin part number 596 bearing.</p> <p>The supplier of the wheel assembly, reported to Southwest Airlines, that in their opinion the 594 bearing was inadvertently packed with Mobil 28 grease (red) instead of Aeroshell 5 grease (yellow), and placed into customer stock without an identification tag. Since the 594 and 596 bearings are very similar in appearance once packed with grease, the 594 bearing was misidentified by a small parts area mechanic as a 596 bearing. The bearing was also retrieved from customer stock without the assistance of a certified material control inspector.</p> <p>While bearing part numbers are listed on the process card that travels with the wheel halves, they were not listed on the portion of the card that travels with the small parts. In three instances, the small parts mechanic, the finished mechanic, and final inspector did not verify the number on the bearing. (See enclosed letter.)</p>					
FACTUAL REPORT - AVIATION					
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 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: FTW95IA348			
		Occurrence Date: 08/18/1995			
		Occurrence Type: Incident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
LUBBOCK INTERNATIONAL	LBB	3280 Ft. MSL	26	8001	150
Runway Surface Type: Concrete					
Runway Surface Condition:					
Type Instrument Approach:					
VFR Approach/Landing: Full Stop					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
BOEING		737-3H4		22948	
Airworthiness Certificate(s): Transport					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 145	Certified Max Gross Wt.	130000 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	GE	CFM-56	20000 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
Continuous Airworthiness		Hours	Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
SOUTHWEST AIRLINES		2833 SHORECREST DRIVE			
		City	State	Zip Code	
		DALLAS	TX	75235	
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City	State	Zip Code	
Operator Does Business As:			Operator Designator Code: SWAA		
- 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/Cargo					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: FTW951A348
	Occurrence Date: 08/18/1995
	Occurrence Type: Incident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 48
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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; Single-engine Land

Rotorcraft/Glider/LTA: Helicopter

Instrument Rating(s): Airplane; Helicopter

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: 08/1995
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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	20000	15000								
Pilot In Command(PIC)		15000								
Instructor										
Last 90 Days		200								
Last 30 Days		75								
Last 24 Hours		6								

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 LBB	Departure Time 1200	Time Zone CDT
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Destination ALBUQUERQUE	State NM	Airport Identifier ABQ	
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Type of Clearance: IFR

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
	0000		0 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Unknown			0 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: Unknown			0 Ft. AGL	Visibility: 10 SM	Altimeter: "Hg
Temperature: °C	Dew Point: °C	Wind Direction:		Density Altitude: Ft.	
Wind Speed:	Gusts:	Weather Conditions at Accident Site: Visual Conditions			
Visibility (RVR): 0 Ft.	Visibility (RVV) 0 SM	Intensity of Precipitation: Unknown			
Restrictions to Visibility:					
Type of Precipitation:					

Accident Information

Aircraft Damage: Minor	Aircraft Fire: None	Aircraft Explosion: None
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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					
Passengers				109	109
- TOTAL ABOARD -				114	114
Other Ground	0	0	0		0
- GRAND TOTAL -	0	0	0	114	114

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: FTW95IA348

Occurrence Date: 08/18/1995

Occurrence Type: Incident

Administrative Information

Investigator-In-Charge (IIC)

DOUGLAS D. WIGINGTON

Additional Persons Participating in This Accident/Incident Investigation:

MICHAEL R JORDAN
FAA FSDO
LUBBOCK, TX 79401