



National Transportation Safety Board Aviation Incident Data Summary

Location:	Houston, TX	Incident Number:	FTW021A061
Date & Time:	01/03/2002, 0446 CST	Registration:	F-GCBG
Aircraft:	Boeing 747-228F	Injuries:	3 None
Flight Conducted Under:	Part 129: Foreign		

Analysis

After a normal touchdown and rollout, the 747 cargo airplane exited the runway onto a high-speed taxiway. The captain, noticed that the airplane was "dragging," to the right. The need for additional power for taxi seemed too great, so the crew stopped taxi and applied the parking brake. On-site examination revealed the right outboard main landing gear trunnion was completely fractured and separated several inches inboard of the aft trunnion bearing. Further visual inspection of the fractured area showed evidence of corrosion and what appeared to be a pre-existing crack on the upper portion of the outer cylinder of the trunnion and a metallurgical examination showed evidence of stress corrosion cracking (SCC). The inspection criteria outlined in Airworthiness Directive (AD) repalc90-06-18 R1 required the operator to perform a visual inspection, or a visual plus eddy current inspection of the wing landing gear at the trunnion, for cracks and corrosion. The inspection criteria outlined in AD 2001-17-25 required the operator to perform a detailed visual inspection using a bore scope to find cracking and corrosion of the aft trunnion outer cylinders of the wing landing gear, within 180 days from October 3, 2001. According to the operator's records, the bore scope inspection had not been performed, as per the AD, it was not due until April 3, 2002. Historical review of Service Difficulty Reports (SDR's) revealed 19 occurrences of SCC associated with corrosion of the aft trunnion outer cylinder stressed areas. Due to these SDR data, the manufacturer issued ASB 747-32A2465 revision 1, which was mandated by a new FAA AD 2001-17-25. AD 2001-17-25 included a bore scope inspection of the affected area of the trunnion due to the fact that the propagation of SCC cracking was internal on the cylinder and not readily detected by visual or eddy current methods as per the original AD 90-06-18 R1.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be: Stress corrosion cracking (SCC) of the aft trunnion outer cylinder. A factor was the inadequate inspection criteria of the Airworthiness Directive to detect pre-existing SCC.

Findings

Occurrence #1: GEAR COLLAPSED
Phase of Operation: TAXI - FROM LANDING

Findings

1. (C) LANDING GEAR,MAIN GEAR STRUT - CORRODED
2. (C) LANDING GEAR,MAIN GEAR STRUT - CRACKED
3. LANDING GEAR,MAIN GEAR STRUT - FAILURE,TOTAL
4. (F) MAINTENANCE,SERVICE BULLETIN/LETTER - INADEQUATE

Pilot Information

Certificate:	Airline Transport	Age:	57
Airplane Rating(s):	Multi-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:	16031 hours (Total, all aircraft), 8004 hours (Pilot In Command, all aircraft), 136 hours (Last 90 days, all aircraft), 72 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Co-Pilot Information

Certificate:		Age:	
Airplane Rating(s):		Instrument Rating(s):	
Other Aircraft Rating(s):		Instructor Rating(s):	
Flight Time:			

Flight Engineer Information

Certificate:		Age:	
Airplane Rating(s):		Instrument Rating(s):	
Other Aircraft Rating(s):		Instructor Rating(s):	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	Registration:	F-GCBG
Model/Series:	747-228F	Engines:	4 Turbo Fan
Operator:	AIR FRANCE	Engine Manufacturer:	General Electric
Operating Certificate(s) Held:	Foreign Air Carrier (129)	Engine Model/Series:	CF6-50E2
Flight Conducted Under:	Part 129: Foreign		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	IAH, 97 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	/ ,
Temperature:	-3° C	Visibility	10 Miles
Precipitation and Obscuration:			
Departure Point:	Mexico City (MMEX)	Destination:	Houston, TX (KIAH)

Airport Information

Airport:	Bush Intercontinental Airport (IAH)	Runway Surface Type:	Concrete
Runway Used:	15L	Runway Surface Condition:	Dry
Runway Length/Width:	12001 ft / 150 ft		

Wreckage and Impact Information

Crew Injuries:	3 None	Aircraft Damage:	Minor
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	29.980278, -95.339722		

Administrative Information

Investigator In Charge (IIC):	Alexander Lemishko	Adopted Date:	01/24/2005
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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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.