



National Transportation Safety Board Aviation Incident Data Summary

Location:	Atlanta, GA	Incident Number:	MIA071A088
Date & Time:	05/02/2007, 1106 EDT	Registration:	N270AX
Aircraft:	MCDONNELL DOUGLAS DC-10-30	Injuries:	306 None
Flight Conducted Under:	Part 121: Air Carrier - Non-scheduled		

Analysis

While flying at 13,000 feet mean sea level (msl), and decelerating to 250 knots in a DC-10-30 airplane, the horizontal stabilizer could not be moved by either commands from the autopilot or using the primary and alternate control switches from the cockpit. The horizontal stabilizer remained at approximately 1 degree airplane nose-up which resulted in excessive cockpit control forces. An emergency was declared with air traffic control and the flight landed uneventfully on runway 27R at ATL. The inoperative horizontal stabilizer trim system was caused by improper overhaul of the horizontal stabilizer chain drive unit drive assembly (horizontal stabilizer drive assembly) P/N AJH 7337-507, S/N DCA-418 by omission of one pin (P/N 3D0009-5-4), one nut (P/N MS21043-08), and one washer (P/N NAS 1252-BL) which secure the drive gear of the horizontal stabilizer drive assembly. The omission of the parts resulted in fatigue failure of another pin (P/N AJH7378-1) and shear failure of the single installed pin (P/N 3D0009-5-4). This prevented output of the horizontal stabilizer drive assembly being transmitted to acme screws of the horizontal stabilizer. There was no flight crew write-ups for the previous 93 days related to pitch trim. The horizontal stabilizer drive assembly was overhauled on April 30, 1999, and installed in the incident airplane on April 23, 2006. The airplane had accumulated 2,421 hours and 473 cycles since the overhauled assembly was installed.

Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be:
The improper overhaul of the horizontal stabilizer chain drive unit drive assembly.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: DESCENT - NORMAL

Findings

1. FLT CONTROL SYST,STABILATOR TRIM - FATIGUE
2. (C) MAINTENANCE,OVERHAUL - IMPROPER - OTHER MAINTENANCE PERSONNEL
3. FLT CONTROL SYST,STABILATOR TRIM - FAILURE,TOTAL
4. STABILATOR TRIM - NOT POSSIBLE - FLIGHTCREW

Pilot Information

Certificate:	Airline Transport; Flight Engineer; Private	Age:	48
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:			

Co-Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	37
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane
Flight Time:			

Flight Engineer Information

Certificate:	Commercial; Flight Engineer	Age:	38
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	Airplane
Other Aircraft Rating(s):	None	Instructor Rating(s):	None
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	MCDONNELL DOUGLAS	Registration:	N270AX
Model/Series:	DC-10-30	Engines:	3 Turbo Fan
Operator:	OMNI AIR INTERNATIONAL INC	Engine Manufacturer:	General Electric
Air Carrier Operating Certificate:	Supplemental	Engine Model/Series:	CF6-50C2
Flight Conducted Under:	Part 121: Air Carrier - Non-scheduled		

Meteorological Information and Flight Plan

Observation Facility, Elevation:	ATL, 1026 ft msl	Weather Information Source:	Weather Observation Facility
Conditions at Accident Site:	Visual Conditions	Lowest Ceiling:	None
Condition of Light:	Day	Wind Speed/Gusts, Direction:	5 knots, 280°
Temperature:	25° C / 13° C	Visibility	10 Miles
Precipitation and Obscuration:	No Precipitation		
Departure Point:	Shannon (EINN)	Destination:	Atlanta, GA (ATL)

Airport Information

Airport:	Hartsfield - Jackson Atlanta (ATL)	Runway Surface Type:	
Runway Used:	N/A	Runway Surface Condition:	
Runway Length/Width:			

Wreckage and Impact Information

Crew Injuries:	14 None	Aircraft Damage:	None
Passenger Injuries:	292 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

Administrative Information

Investigator In Charge (IIC):	Timothy W Monville	Adopted Date:	01/29/2009
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/ .		

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