



# National Transportation Safety Board Aviation Incident Data Summary

<b>Location:</b>	Chicago, IL	<b>Incident Number:</b>	ENG08IA042
<b>Date &amp; Time:</b>	10/01/2008, 1055 CST	<b>Registration:</b>	N551WN
<b>Aircraft:</b>	BOEING 737	<b>Injuries:</b>	133 None
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Scheduled		

## Analysis

The airplane experienced separation of the right nose landing gear (NLG) wheel assembly as it exited runway after landing. Metallurgical examination revealed that the NLG axle fractured in a transverse plane, and that the failure of the axle was due to intergranular cracking that acted as stress concentrators from which fatigue cracks emanated. The fracture of the right side inboard journal on the NLG inner cylinder assembly was most likely due to the failure of a prior tapered roller bearing. Eventually the size of the fatigue crack and the forces generated during landing were sufficient to drive the crack in overstress, leading to fracture of the inboard journal. The change in ownership of the plane and the monthly swapping of bearings and wheels make it difficult to determine when the bearing failure occurred or why.

## Flight Events

Taxi-from runway - Aircraft structural failure  
Taxi-from runway - Landing gear collapse

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this incident to be:  
The right nose landing gear axle's failure from intergranular and fatigue cracking due to an earlier bearing failure.

## Findings

Aircraft-Aircraft systems-Landing gear system-Nose/tail landing gear-Failure - C  
Aircraft-Aircraft systems-Landing gear system-Nose/tail landing gear-Fatigue/wear/corrosion - C

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	BOEING	<b>Registration:</b>	N551WN
<b>Model/Series:</b>	737 -76Q	<b>Engines:</b>	2 Turbo Fan
<b>Operator:</b>	Southwest Airlines, Co.	<b>Engine Manufacturer:</b>	CFM
<b>Air Carrier Operating Certificate:</b>	Flag carrier (121)	<b>Engine Model/Series:</b>	CFM56-7B22
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Scheduled		

## Meteorological Information and Flight Plan

Observation Facility, Elevation:		Weather Information Source:	
Conditions at Accident Site:		Lowest Ceiling:	
Condition of Light:		Wind Speed/Gusts, Direction:	
Temperature:		Visibility:	
Precipitation and Obscuration:			
Departure Point:	Kansas City, MO (MCI)	Destination:	Chicago, IL (MDW)

## Airport Information

Airport:	Chicago Midway (MDW)	Runway Surface Type:	Concrete
Runway Used:	31C	Runway Surface Condition:	Dry
Runway Length/Width:	6522 ft / 150 ft		

## Wreckage and Impact Information

Crew Injuries:	5 None	Aircraft Damage:	Minor
Passenger Injuries:	128 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None

## Administrative Information

Investigator In Charge (IIC):	Deepak Joshi	Adopted Date:	03/23/2010
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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