Boeing 747-436, G-BNLD, 11 October 1997

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Aircraft Type and Registration:	Boeing 747-436, G-BNLD
No & Type of Engines:	4 Rolls Royce RB211-524G turbofan engines
Year of Manufacture:	1989
Date & Time (UTC):	11 October 1997 at 0759 hrs
Location:	Lilongwe, Malawi, Africa
Type of Flight:	Public Transport
Persons on Board:	Crew - 17 - Passengers - 180
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Hydraulic leak from left body gear
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	51 years
Commander's Flying Experience:	13,880 hours (of which 1,093 were on type)
	Last 90 days - 170 hours
	Last 28 days - 62 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

History of the flight

The aircraft was planned to operate a scheduled passenger servicefrom Lusaka (Zambia) to Lilongwe (Malawi). The aircraft was serviceablefor the approach to Lilongwe where the runway in use was Runway14. This runway has a high intensity approach lighting systemand VASIs set at 3_, the landing distance is 11,614 feet withan asphalt surface, the touchdown threshold is 4,028 feet amsland a serviceable ILS was available. Prior to the approach thereported meteorological conditions for the airfield included asurface wind of 070_/14 kt, visibility greater than 10 km withno significant cloud and a surface temperature of +26_C.

The commander was the handling pilot for the visual approach whichwas flown in clear air and no turbulence was noted during theapproach. The pilot reported that the aircraft went slightlylow on the glideslope during the latter stages of the approachbut was soon re-established and, at 200 feet,

the aircraft wasstabilised at Vref +5 kt. Shortly after the automatic '50 feet'call the pilot commenced a normal flare manoeuvre but the aircraftrate of descent did not reduce and the aircraft made a firm contactwith the runway surface. The pilot commented upon the apparentabsence of the usual ground effect associated with this type ofaircraft. The roll-out and braking were normal but once stationaryon the stand it was discovered that there was a significant hydraulicleak from the left body gear; on touchdown two of the ceilingpanels in the cabin had also become dislodged. There were noinjuries to the passengers or crew all of whom disembarked normally.

Data from the Optical Quick Access Recorder indicated that throughoutthe approach the airspeed was fairly stable at 146 kt (+/- 3 kt),although this increased to a maximum of 155 kt at 50 feet. Below300 feet the aircraft was consistently about half a dot belowthe glideslope until at 30 feet, when it moved back towards theglideslope. The rate of descent at touchdown was around 10 ft/sec,this had remained fairly constant below 100 feet and did not showthe effect of the flare which was initiated at about 50 feet whenthe pitch angle was increased from +0.5_ to achieve +3_ at touchdown. The recorded wind velocity was reasonably constant at 070_/14kt during the approach, however, there was a shift in the windvelocity below 100 feet when the wind veered from 070_ to 100_and decreased from 14 kt to 10 kt. The normal acceleration tracedid indicate a level of light turbulence during the approach (around+/- 0.125G) which can be associated with windshear. Furthermore,despite the increase in airspeed to 155 kt at 50 feet the groundspeedremained fairly constant between 150 kt to 152 kt throughoutthe approach. It is therefore probable that the aircraft encounteredsome minor windshear prior to and during the flare which couldaccount for the firm touchdown.