Boeing 737-436, G-DOCV

AAIB Bulletin No: 1/97 Ref: EW/G96/06/13 Category: 1.1

INCIDENT

Aircraft Type and Registration:	Boeing 737-436, G-DOCV
No & Type of Engines:	2 CFM56-3C1 turbofan engines
Year of Manufacture:	1992
Date & Time (UTC):	10 June 1996 at 1933 hrs
Location:	London Heathrow Airport
Type of Flight:	Public Transport
Persons on Board:	Crew - 7 - Passengers - 88
Injuries:	Crew - None - Passengers - None
Nature of Damage:	Damage to the main landing gear door, hydraulic pipes and electrical cables and to a wing flap and spoiler
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	46 years
Commander's Flying Experience:	13,690 hours (of which 8,800 were on type)
	Last 90 days - 94 hours
	Last 28 days - 2 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and AAIB telephone inquiries

The aircraft was taking-off on Runway 27R at Heathrow Airportfor a scheduled flight to Inverness. The wind was from 270°Mat 5 kt, ambient temperature was 20°C and the runwaysurface was dry. The crew felt a slight shimmy on take-off rotationat 135 kt and ATC subsequently advised that tyre and metallicdebris had been found on the runway.

The flight diverted to Glasgow Airport. On arrival a low passwas made in order for ground personnel to view the underside ofthe aircraft; this failed to positively identify the problem. The aircraft then made an uneventful landing at Glasgow. Itwas found that the right hand tyre of the right main landing gearwas severely distressed, with the entire tread missing, togetherwith substantial parts of the carcass outer plies. The landinggear door had been severely damaged and damage had also resultedto hydraulic pipelines and to an electrical cable conduit associatedwith the

right landing gear anti-skid system. The wing flap trailingedge and the under surface of the No 5 spoiler panel werealso damaged.

Information from the operator suggested that the tyre tread hadpartially separated following damage inflicted by contact witha foreign object. A piece of metallic debris was found in thesame area as the tyre debris; it was identified as a blocker doorfrom a Rolls Royce RB211-524G or 524H engine but it was not possibleto ascertain its origin. Examination of the tyre by the manufacturerfound no signs of pre-failure defect and also indicated that thedamage was most likely to have been caused by impact with a sharpobject when the tyre had been rotating at high speed. It appearedthat the flailing tread had caused the damage to the landing geardoor, the hydraulic pipes and the electrical cables and that thedamaged door had then detached under aerodynamic loading and struckthe flap and the spoiler.