Airbus A330-243, G-EOMA

AAIB Bulletin No: 9/2002	**Ref: EW/G2002/05/13**	**Category: 1.1**
INCIDENT		
Aircraft Type and Registration:	Airbus A330-243, G-EOMA	
No & Type of Engines:	2 Rolls Royce Trent 772B-60 turbofan engines	
Year of Manufacture:	1999	
Date & Time (UTC):	24 May 2002 at 1624 hrs	
Location:	Gatwick Airport	
Type of Flight:	Public Transport	
Persons on Board:	Crew - 16	Passengers - 266
Injuries:	Crew - None	Passengers - None
Nature of Damage:	No. 8 tyre deflated with tread loss, minor impact damage to wing, right-hand landing gear and engine cowl	
Commander's Licence:	Airline Transport Pilots Licence	
Commander's Age:	53 years	
Commander's Flying Experience:	13,851 hours (of which 934 were on type)	
	Last 90 days - 124 hours	
	Last 28 days - 53 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

History of the flight

The aircraft was completing a scheduled passenger flight from Naples, Italy, to London Gatwick Airport, and was making an ILS approach to Runway 26L with the first officer handling. The ATIS weather for Gatwick was wind 230°/17 kt gusting 30 kt, with light to moderate turbulence and possible windshear on approach. Visibility was in excess of 10 km with no precipitation. The aircraft was being flown manually, with autothrust engaged and with Managed Speed mode selected throughout the final approach and landing. Although the approach was flown in gusty conditions and autothrust activity was high, neither the commander, nor the instructor pilot in the jump seat who was conducting a line check on the crew, noticed anything unusual about the

approach or landing. The touchdown was not considered unusual or particularly firm, given the gusty, part-crosswind conditions, the de-rotation was smooth and braking was instituted with the autobrake set to 'low'.

As the aircraft vacated the runway, ATC advised that the aircraft appeared to have burst a tyre on landing. The aircraft was brought to a halt on the parallel emergency runway, where it was attended by the Airport Fire Service, who reported that the No 8 tyre had deflated and lost its tread. A high No 7 brake temperature indication on the ECAM screen was observed by the crew, which confirmed to them that the loss of braking from the No 8 wheel had likely been compensated for by the No 7 wheel. Following an inspection by a company engineer, the aircraft was taxied to the nearest suitable stand without further incident.

On further inspection, scuff marks from thrown tyre tread were observed on the inboard side of the right engine nacelle, along with four areas of impact damage on the right inboard flap. This damage was beyond maintenance manual limits and required an engineering concession to be raised for inspection every time the aircraft returned to the UK, until the next scheduled hangar visit. The No 4 brake aft wear pin was also found damaged. The No 7 and 8 wheels and brakes were replaced and their tyres and tread fragments were returned to the manufacturer for investigation.

Engineering investigation

The failed No 8 tyre, serial number 9052B134, had been re-treaded twice. Its records showed that it had accomplished 234 landings as a new tyre before being worn to limits. As a first retread tyre it accomplished 160 landings before it suffered a deflation and was removed from an aircraft as unserviceable in March 2000. The tyre was eventually fitted to G-EOMA on 15 May 2002 after being retreaded and, at the time of failure, had completed 22 landings since fitment.

The manufacturer's tyre failure report indicated that the No. 8 tyre had completely lost its tread around the entire circumference and across the entire width of the crown. A 3 mm perforation through the casing was found in the shoulder, opposite the serial number location, but there was no corresponding perforation in the section of tread from this location. Evidence was also found of a separation pocket between the tread and casing having formed in the area of the perforation.

The tyre manufacturer concluded that the perforation had not been detected during the previous retreading operation. When the newly retreaded tyre was inflated, nitrogen had leaked through the perforation and gradually worked its way between the tread and the casing, causing local separation of the tread, which ultimately caused the whole tread to peel off under the landing loads.