Boeing 737, OY-KKP

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INCIDENT

Aircraft Type and Registration:	Boeing 737, OY-KKP
No & Type of Engines:	2 CFM56 turbofan engines
Year of Manufacture:	1999
Date & Time (UTC):	16 November 1999 at 1615 hrs
Location:	10 nm north of Braso at Flight Level 90
Type of Flight:	Public Transport
Persons on Board:	Crew 6 - Passengers - 63
Injuries:	Crew None - Passengers - None
Nature of Damage:	Emergency evacuation slides damaged
Commander's Licence:	Airline Transport Pilots Licence
Commander's Age:	49 years
Commander's Flying Experience:	12,500 hours (of which 4,500 were on type) Last 90 days - 100 hours Last 28 days - 35 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and technical report from the operator

Duringthe initial climb out of Stansted bound for Copenhagen, at about 5,000 feet at aspeed of 320 kt the wheel well fire warning activated. The Non-Normal Checklist was actioned, aMAYDAY declared and a return to Stansted initiated. The fire warning stopped one minute after landing gearextension. The cabin attendants andsome passengers reported a burning smell.

Afterlanding, the engine and APU fire extinguishers were used and the commanderelected to evacuate the passengers via the cabin doors and slides only, notusing the over-wing exits due to the risk of tyre burst and attendant potentialfor injury. The passengers gathered200 metres from the aircraft and were taken to the lounge by buses.

Thewheel well fire detection system comprises a temperature sensitive loop mountedin the top of the well connected to an Overheat Detection Control Module. A sensed temperature of 205°C or more shouldbe required to trigger the warning. Inspection of the wheel well and brakes did not reveal any evidence of overheator fire. However, the indicator on theOverheat Detection Control Module confirmed a warning had been activated.

Followingventilation and cleaning of the engine and APU bays new fire bottles wereinstalled and the aircraft was ferried to Copenhagen with the wheel well firedetection system disabled. The escapeslides were not installed as they had become damaged during the evacuation.

TheOverheat Detection Control Module was replaced and the unit sent forexamination but it was returned with no fault found. The wheel well overheat sensing element was also replaced and thesystem was reactivated. The aircraftwas returned to service with no repeat incident. The removed sensing element was examined and initial testingrevealed some anomalies. Furthertesting caused the element to adopt a permanently low resistance, consistentwith an overheat warning.

Onthe landing at Stansted from the previous flight, although the landing weightwas not high, maximum braking had been used. The aircraft was then parked for 45 to 50 minutes withthe parking brake on following only a short taxi. It would appear that, on the incident flight, the warningactivated after landing gear retraction, when the wheel well temperature rosesufficiently to cause the sensing element to generate a warning at atemperature significantly below the design figure of 205°C. As this aircraft had only operated for 29flight hours from new at the time of incident, the wheel well may have notreached such an elevated temperature previously. This was the operators first experience of a wheel well firewarning on the Boeing 737.

Boththe warning and Non-Normal Checklist refer only to a wheel well fire not anoverheat and so the operator is to conduct further investigations to:-

1 Establish ifadditional information regarding the cause of a wheel well fire warning couldbe included in the Non-Normal Checklist, reflecting the fact that the warningcan be triggered by an overheat or fire.

2 Establishif the Non-Normal Checklist could consider the significance of the warninggoing off or remaining on following landing gear extension.

3 Establishif a burning smell can be sensed at any time in the cabin area over the wingfollowing landing gear retraction, and if so, inform crews accordingly.