Aviation Safety Investigation Report 199700784

Boeing Co
B747

08 March 1997

Aviation Safety Investigation Report

199700784

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with Part 2A of the Air Navigation Act 1920.

Investigations commenced after 1 July 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with the Transport Safety Investigation Act 2003 (TSI Act). Reports released under the TSI Act are not admissible as evidence in any civil or criminal proceedings.

NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Aviation Safety Investigation Report

199700784

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number: 199700784 **Occurrence Type:** Incident
Location: Bangkok, Aerodrome
State: Other **Inv Category:** 4
Date: Saturday 08 March 1997
Time: 0824 hours **Time Zone** UTC
Highest Injury Level: None

Aircraft Manufacturer: Boeing Co
Aircraft Model: 747-338
Aircraft Registration: VH-EBV **Serial Number:** 23224
Type of Operation: Air Transport High Capacity International Passenger
Damage to Aircraft: Minor
Departure Point: Bangkok, Thailand
Departure Time: 0824 UTC
Destination: Rome, Italy

Approved for Release: Monday, April 21, 1997

At Sydney, the aircraft had been released for service, prior to departure for Bangkok, with the number three engine fire detection 'B' loop inoperative, in accordance with the provisions of the minimum equipment list. The remaining 'A' loop would be used for fire detection and warning for the engine. The aircraft operated normally to Bangkok, where a transit service was performed before the next sector to Rome.

The subsequent takeoff was rejected at 140 knots when the fire warning for number three engine activated. The aircraft returned to the gate where eleven of the sixteen mainwheels deflated due to overheating. The mainwheels were changed. Rectification of the fire warning problem consisted of repairing a broken wire at the 'B' fire detection loop connector, adjacent to number three engine starter motor. Both 'A' and 'B' loops then tested normally.

As the aircraft was rotated during the next takeoff the number three engine fire warning activated again. The crew carried out the fire warning actions and shut down the engine. Fuel was jettisoned to bring the aircraft to maximum landing weight, prior to returning to Bangkok. An inspection of the engine revealed two holes burnt in the combustion case adjacent to the fire detection loops. The holes allowed hot gasses to escape and activate the fire warning system.

Investigation of the incident by the operator has resulted in a change to company procedures. Any rectification for a fire warning defect will now require a ten minute minimum high power ground run to verify the integrity of the engine. In addition, the inspection intervals for combustion cases have also been reduced.