

**Aviation Safety Investigation Report  
199703978**

**Kavanagh Balloons Pty Ltd  
E-120  
Kavanagh Balloons Pty Ltd  
E-180  
Boeing Co  
B767**

**04 December 1997**

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](http://www.atsb.gov.au).**

**Occurrence Number:** 199703978                      **Occurrence Type:** Incident  
**Location:** Archerfield, Aerodrome  
**State:** QLD    **Inv Category:** 4  
**Date:** Thursday 04 December 1997  
**Time:** 0625 hours                                      **Time Zone** EST  
**Highest Injury Level:** None

**Aircraft** Boeing Co  
**Manufacturer:**  
**Aircraft Model:** 767-300ER  
**Aircraft Registration:** JA8970

**Serial  
Number:**

**Type of Operation:** Air Transport High Capacity International Passenger  
Scheduled  
**Damage to Aircraft:** Nil  
**Departure Point:** Kansai International Japan  
**Departure Time:** 1147 EST  
**Destination:** Brisbane Qld

**Aircraft Manufacturer:** Kavanagh Balloons Pty Ltd  
**Aircraft Model:** E-180  
**Aircraft Registration:** VH-AVO                      **Serial Number:** KB132  
**Type of Operation:** Miscellaneous Other  
**Damage to Aircraft:** Nil  
**Departure Point:** Archerfield Qld  
**Departure Time:** 0615 EST  
**Destination:** Unknown

**Aircraft Manufacturer:** Kavanagh Balloons Pty Ltd  
**Aircraft Model:** E-120  
**Aircraft Registration:** VH-AQF                      **Serial Number:** KB134  
**Type of Operation:** Miscellaneous Other  
**Damage to Aircraft:** Nil  
**Departure Point:** Archerfield Qld  
**Departure Time:** 0615 EST  
**Destination:** Unknown

**Approved for Release:** Monday, January 19, 1998

---

Two hot air balloons had departed from Archerfield in company at approximately 0615 EST and the pilots had been cleared to operate not above 2,500 ft by the terminal area controller. One of the balloons was operating a transponder but the transponder was not equipped with a mode C (height readout) function. The other balloon was not equipped with a transponder. The ATC radar display of the transponder return from the balloon was intermittent.

After initial identification of the balloon, radar contact was lost for a period of some minutes. At the same time, a Boeing 767 (B767) was inbound to Brisbane from the north and was being radar vectored for a left circuit for a runway 01 ILS approach. At about the same time, a light aircraft departed Archerfield for Brisbane and the pilot requested airways clearance. The pilot was instructed to proceed outside controlled airspace towards the TV towers, and to expect clearance at that position. The pilot was advised of the presence of the balloons. The radar return of the balloons was not visible to the controller at this time. The B767 had by this time reached a position 5 NM south-west of Archerfield, was cleared to 3,000 ft and vectored onto a heading of 090 for the base leg. At about 1 NM west of Archerfield the B767 pilot requested a heading of 040 "due to balloon" and the aircraft was observed to climb by the controller. The heading requested was approved with a further clearance to descend to 2,500 ft and to commence the ILS approach. As the B767 intercepted the localiser, the radar return for one of the balloons reappeared on the radar, just south of the return for the B767. The controller then realised that there had been a breakdown of separation standards between the balloon(s) and the B767.

The balloon pilots had seen the approaching B767 and said that it had appeared from the west out of cloud. The aircraft was heading towards them but climbed and turned left. One of the balloon pilots estimated that the B767 passed 500 metres to the north and about 600 ft above.

During the time that the B767 was being radar vectored, the balloon transponder return had not been visible on the controllers radar screen, and the controller had temporarily forgotten their presence. The balloon operator said it was not uncommon for radar contact with balloons to be lost, because the transponder antenna was sometimes masked by the gas installation in the basket. The operator has undertaken to improve the antenna installation to overcome this problem.

The balloon operator was operating under a Civil Aviation Safety Authority (CASA) Permit. One of the conditions of the permit required the balloon to be fitted with a transponder capable of mode C operation, to be operated as directed, unless exempted by ATC. At the time of the occurrence, the balloon was operating under an exemption. As a result of the occurrence, Airservices Australia removed the exemption and stated that, in future, no such exemptions for operations of this nature would be made.

A recommendation was made to the Archerfield District Flying Operations Manager that the words "unless exempted by ATC" be removed from the permit.

