

**Aviation Safety Investigation Report  
199503515**

**Boeing Co  
B747  
Saab Aircraft AB  
340**

**23 October 1995**

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**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).**

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:** 199503515                      **Occurrence Type:** Incident  
**Location:** 27km SW Sydney, Aerodrome  
**State:** NSW    **Inv Category:** 4  
**Date:** Monday 23 October 1995  
**Time:** 1928 hours                                      **Time Zone** EST  
**Highest Injury Level:** None

**Aircraft Manufacturer:** Boeing Co  
**Aircraft Model:** 747-438  
**Aircraft Registration:** VH-OJD                                      **Serial Number:** 24481

**Type of Operation:** Air Transport High Capacity International Passenger Scheduled  
**Damage to Aircraft:** Nil  
**Departure Point:** Bangkok Thailand  
**Departure Time:**  
**Destination:** Sydney NSW

**Aircraft Manufacturer:** Saab Aircraft AB  
**Aircraft Model:** SF-340B  
**Aircraft Registration:** VH-OLN                                      **Serial Number:** 340B-207  
**Type of Operation:** Air Transport Domestic Low Capacity Passenger Scheduled  
**Damage to Aircraft:** Nil  
**Departure Point:** Sydney NSW  
**Departure Time:** 1927 EST  
**Destination:** Orange NSW

**Approved for Release:** Monday, April 15, 1996

VH-OJD was cleared to track inbound via the 229 VOR radial on descent to 6,000 ft. The Approach South radar control sector controller (APP S) was processing the aircraft for landing on runway 16R. Due to operational requirements, the APP S controller delayed turning the aircraft onto a right downwind for that runway.

VH-OLN had departed runway 16R, cleared initially to climb to 5,000 ft. The Departures South radar control sector controller (DEP S) cleared the aircraft for an early right turn and an unrestricted climb to its planned cruising level.

The APP S controller was about to instruct the crew of VH-OJD to turn onto right downwind for runway 16R when he recognised that VH-OLN was climbing through 5,000 ft. In an attempt to maintain lateral separation he instructed the crew of VH-OJD to turn left immediately and advised them of the traffic ahead to their right. At this time, the crew of VH-OJD advised that they were complying with a TCAS Resolution Advisory and climbing to 7,000 ft.

Recorded radar information indicated that the aircraft had closed to approximately 2.1 NM, with 400 ft vertical separation when the minimum separation should have been 3 NM or 1,000 ft vertically. Each had penetrated their respective airspace boundary buffer.

The runway 16 airspace agreement has a narrow corridor in the APP S airspace to the west of the airport. This airspace design limits the flexibility available to APP S when vectoring aircraft to downwind for runway 16. The latitude that DEP S may apply when vectoring departing aircraft onto south-westerly headings, and providing climb, is also restricted.

Separation was not ensured before VH-OLN was cleared for an unrestricted climb. The situation was worsened by the high rate of climb achieved by VH-OLN.

### Findings

1. The unrestricted climb instruction provided to VH-OLN by the DEP S controller was premature.
2. The vectoring of VH-OJD onto right downwind for runway 16R by the APP S controller was initiated late.
3. The airspace agreement boundary for runway 16 operations restricted flexibility in the processing of both arrival and departure aircraft.

### Factors

1. The radar surveillance techniques used by both controllers were inadequate to prevent the loss of the prescribed separation standards.

### Safety action

As a result of occurrence 9503423, the Bureau of Air Safety Investigation made interim recommendation IR950212. As the interim recommendation is also applicable to this investigation, it is reproduced below.

IR950212

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The Bureau of Air Safety Investigation recommends that Airservices Australia amend the runway 16 airspace agreement boundaries to ensure that arriving and departing aircraft cannot be on, or near, reciprocal tracks. The amendment should address excursions into either buffer area.

