

**Aviation Safety Investigation Report
199704172**

**Cessna Aircraft Company
Skyhawk
Boeing Co
B767**

20 December 1997

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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.

Occurrence Number: 199704172 **Occurrence Type:** Incident
Location: Sydney, Middle Marker
State: NSW **Inv Category:** 4
Date: Saturday 20 December 1997
Time: 0720 hours **Time Zone** ESuT
Highest Injury Level: None

Aircraft Manufacturer: Boeing Co
Aircraft Model: 767-338ER
Aircraft Registration: VH-OGD **Serial Number:** 24407

Type of Operation: Air Transport Domestic High Capacity Passenger
Scheduled
Damage to Aircraft: Nil
Departure Point: Melbourne Vic.
Departure Time:
Destination: Sydney NSW

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 172P
Aircraft Registration: VH-ESO **Serial Number:** 17274996
Type of Operation: Non-commercial Pleasure/Travel
Damage to Aircraft: Nil
Departure Point: Bankstown NSW
Departure Time: 0715 ESuT
Destination: Archerfield Qld

Approved for Release: Wednesday, July 15, 1998

A Boeing 767 (B767) was conducting an instrument landing system (ILS) approach to RWY 16R in instrument meteorological conditions (IMC). The aircraft had left 3,000 ft and the crew were in contact with the aerodrome controller (ADC). When some 11 NM from the airport the crew saw a target appear on their traffic collision and avoidance system (TCAS), 3.5 NM ahead, some 1,500 ft below, and climbing at 500 ft/min on a conflicting course. The crew of the B767 stopped their descent at 2,200 ft, and diverted slightly to the right of the ILS centreline to avoid the target.

At about the same time the ADC observed a secondary surveillance radar (SSR) symbol from an unidentified aircraft in the Ryde bridge area. The SSR code was 2000, which was the appropriate code for civil aircraft flights in non-controlled airspace. The aircraft was west of the extended centreline of RWY16R, 8 NM north-west of the airport, and tracking north-east at an unconfirmed altitude of 1,500 ft. The crew of the B767 queried the ADC regarding the other aircraft and were advised that radar indicated the aircraft was ahead and below the B767. The two aircraft passed and the crew of the B767 subsequently encountered visual conditions and resumed their approach. The crew of the B767 did not see the other aircraft, which was later identified as a Cessna 172 (C172) that had departed Bankstown for Archerfield, tracking via the northern VFR route at 1,500 ft.

Recorded data showed that the C172 had entered controlled airspace without a clearance and had subsequently passed below the B767 with 700 ft vertical separation and 0.75 NM lateral separation. The required separation standard was 1,000 ft vertical, or 3 NM lateral. The pilot of the C172 had not previously flown in the Sydney area, and had only become aware he was off track when he realised he was too close to the city centre. At that point he had turned left to track north in order to leave controlled airspace.

The progress of the B767 was the responsibility of the Director West (DIRW) controller until the aircraft landed. The DIRW had been engaged in a discussion with another controller when the C172 entered controlled airspace and consequently did not see the C172 conflict with the B767. The ADC was provided with a radar display to assist him to appreciate the disposition of aircraft in the vicinity of the runway. However, the ADC was not responsible for separating traffic on the final approach path.

Aircraft departing Bankstown to the north, outside controlled airspace, are required to track via the standard VFR route as depicted on the Visual Terminal Chart. This entails tracking 007 degrees from Bankstown, not above 2,000 ft, until reaching Pennant Hills, where climb can be continued to 2,500 ft. The VFR route passes below the approach/departure paths for aircraft using runways 16/34 at Sydney.

The Manual of Air Traffic Services (MATS) states that;

'In providing radar services within controlled airspace, restricted areas, or designated restricted airspace, ATC has no responsibility to initiate avoiding action in respect of unknown aircraft which can reasonably be assumed to be outside controlled airspace.

Nevertheless, if in the judgement of the radar controller, the action of an observed radar return or information received from other sources gives good reason to believe that the observed radar return of an unknown aircraft is likely to be a hazard to an aircraft under control, the controller has complete discretion to take such action as considered necessary to maintain the safety of the aircraft under radar control. This may comprise the provision of:

- a. traffic information; or
- b. controller initiated traffic avoidance advice; or
- c. a safety alert'

Local safety action taken as a result of this occurrence included;

1. Providing a video recording of the occurrence to highlight to controllers the implications of not maintaining an adequate scan of the radar display.

2. Amending radar controller refresher training to include situations in which aircraft infringed controlled airspace, and

3. Reminding aerodrome controllers that while they are not responsible for the separation of aircraft on the final approach path they are, in conjunction with the Directors, responsible for monitoring the approach and departure areas for infringing aircraft.

