

**Aviation Safety Investigation Report
199601407**

**Boeing Co
B737
Boeing Co
B737**

03 May 1996

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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.

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: 199601407 **Occurrence Type:** Incident
Location: Yango
State: NSW **Inv Category:** 4
Date: Friday 03 May 1996
Time: 0845 hours **Time Zone:** EST
Highest Injury Level: None

Aircraft Manufacturer: Boeing Co
Aircraft Model: 737-377
Aircraft Registration: VH-CZM **Serial Number:** 24302
Type of Operation: Air Transport Domestic Passenger Scheduled
Damage to Aircraft: Nil
Departure Point: Brisbane QLD
Departure Time: 0754 EST
Destination: Sydney NSW

Aircraft Manufacturer: Boeing Co
Aircraft Model: 737-377
Aircraft Registration: VH-CZG **Serial Number:** 23659
Type of Operation: Air Transport Domestic Passenger
Damage to Aircraft: Nil
Departure Point: Cairns, QLD
Departure Time: 0840 EST
Destination: Sydney, NSW

Approved for Release: Tuesday, September 10, 1996

FACTUAL INFORMATION

A Boeing 737 aircraft, VH-CZM, inbound to Sydney from Brisbane was cleared to descend to FL190 and instructed to enter a holding pattern at YANGO. YANGO is a holding point to the northwest of Sydney. A following Boeing 737 aircraft, VH-CZG, inbound to Sydney from Cairns was cleared to descend to FL200 by Brisbane air traffic control (ATC), with a requirement to reach FL200 by YANGO. The crew of VH-CZG then transferred from Brisbane to Sydney ATC and reported on descent to FL200. The Sydney controller instructed the crew of VH-CZG to enter the holding pattern at Yango and to maintain FL190. The crew readback the level and continued descent to FL190. Shortly after, the crew requested confirmation from Sydney control that the previous requirement to reach FL200 by YANGO was still necessary. The requirement was confirmed by the Sydney controller.

During a subsequent scan of his traffic, the controller observed that the radar display altitude label of VH-CZG was indicating FL190. The controller requested confirmation from the crew that the aircraft was maintaining FL200; the level indicated on the flight strip. The crew confirmed maintaining FL190 and stated they had been cleared to FL190 with a requirement to be at FL200 by Yango. The Sydney controller instructed the crew of VH-CZG to climb immediately to FL200 due to VH-CZM being in the holding pattern at FL190. The crew acknowledged and climbed the aircraft to FL200. Radar separation was maintained while vertical separation was less than the standard separation of 1,000 ft. There was no breakdown in separation.

ANALYSIS

The air traffic controller manning the Sydney radar position had recently been re-rated after an absence of approximately two years and was consolidating in the position at the time of the incident. Air traffic was light and he was endeavouring to ensure all aspects of the position were conducted in accordance with current procedures.

Despite the flight strips for both aircraft being annotated with different levels to provide vertical separation of 1,000 ft the controller instructed the crew of VH-CZG to maintain FL190. This was the level assigned to VH-CZM which was already established in the YANGO holding pattern. The controller may have confused the levels notated on the flight strips of VH-CZM and VH-CZG when he acknowledged the initial call by the crew of VH-CZG. This may have caused him to inadvertently transmit to the crew of VH-CZG to 'Maintain FL190' when he actually meant 'Maintain FL200' a level which would have ensured vertical separation between the two aircraft.

While the crew of VH-CZG had only been assigned descent to FL200, the instruction from the Sydney controller to "Maintain FL190" would have strongly suggested to them that the aircraft could continue descent to the lower level. However, as the controller did not prefix the clearance for the lower level with "Descend to ..." the crew of VH-CZG should have queried the instruction. "Maintain (a level)" is only used to restrict a previously assigned climb/descent level or to confirm a requirement to maintain a current level. The term is not used to assign changes of level. A challenge of the instruction by the crew may have alerted the controller to his error.

By regularly scanning the radar display the controller was able to quickly identify and rectify the situation after observing the radar display altitude label of VH-CZG was the same as VH-CZM.

FINDINGS

1. The crew of the VH-CZM operated in accordance with their air traffic control instructions.
 2. The controller inadvertently instructed the crew of VH-CZG to maintain FL190.
 3. The crew of VH-CZG misinterpreted the instruction to maintain FL190 as a clearance for further descent.
 4. The controller observed that the flight level on the radar display altitude label for VH-CZG was the same as VH-CZM and undertook corrective action.
 5. Radar separation was maintained until the standard vertical separation of 1,000 ft was re-established.
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