

**Aviation Safety Investigation Report
199102891**

**Boeing 737-377
Boeing 737-376**

11 October 1991

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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: 199102891
Location: Near Taroom Qld
Date: 11 October 1991
Highest Injury Level: Nil
Injuries:

Occurrence Type: Incident

Time: 1130 hours

	Fatal	Serious	Minor	None
Crew	0	0	0	0
Ground	0	0	0	-
Passenger	0	0	0	0
Total	0	0	0	0

Aircraft Details: Boeing 737-377	Boeing 737-376
Registration: VH-CZD	VH-TJA
Serial Number: 23656	24295
Operation Type: Regular Public Transport	Regular Public Transport
Damage Level: Nil	Nil
Departure Point: Darwin NT	Brisbane Qld
Departure Time: N/K	0
Destination: Brisbane Qld	Mount Isa Qld

Approved for Release: 28th May 1992

Circumstances:

Brisbane Sector 4 is the military (RAAF) sector in the Brisbane Area Approach Control Centre. It is normally manned by two RAAF controllers who rotate between the radar and procedural positions. At the time of the occurrence, however, the sector was manned by one RAAF controller. At 0039 hours UTC, VH-CZD reported to Brisbane Sector 5 its position Longreach, Flight Level (FL) 370, estimating Taroom (165 miles from Brisbane) at 0120 hours. This position was coordinated to the Sector 4 controller as Restricted Area R614, which includes the airspace above and to the east of Taroom, was active and under the control of Sector 4. The Sector 4 controller read back the level correctly but annotated FL 270 on the flight progress strip for VH-CZD. At 0109 hours, VH-TJA departed Brisbane tracking via Taroom on climb to FL 350. At 0120 hours, VH-CZD reported to Sector 4 its position Taroom, FL 370, estimating Brisbane at 0049 hours. The Sector 4 controller did not detect that the flight progress strip had been incorrectly annotated. At 0121 hours, and at about 60 m from Brisbane, VH-TJA transferred to Sector 4 frequency and reported maintaining FL 350 estimating Taroom at 0140 hours. On the controller's request, VH-TJA confirmed cruising at FL 350. At 0127 hours, VH-CZD requested descent and was cleared to descend to FL 210. At 0129 hours, VH-CZD reported left FL 370. The crew of VH-CZD recalled seeing VH-TJA pass below and with a lateral separation of a few hundred metres as descent was initiated. The Sector 4 controller reported that the radar returns of the aircraft merged shortly after VH-CZD reported commencing descent. Investigation of the occurrence revealed that the controller's workload during the period leading up to the occurrence was low, with only two aircraft on frequency. The controller also had engaged in extensive non-operational communications during this period. It was further established that the controller was facing a number of significant personal issues which could have had a distracting influence and had experienced disturbed sleep on the night before the occurrence. Low workload is a common predisposing factor in many air traffic control occurrences involving individual controllers. Low workload tends to lead to under-arousal or complacency, causing work

performance to suffer. Low workload can also provide the opportunity for personal concerns to intrude and divert attention from the primary task. A fatigued person can generally cope with a short burst of mental effort but can have difficulty in conducting protracted monitoring tasks. The controller's failure to detect the discrepancy between the actual flight level of VH-CZD and that annotated on the flight strip was probably due to the controller having a false mental picture of the traffic situation. Fatigue and personal concerns could have reduced the controller's ability to detect information which contradicted the mental picture. The notion that VH-CZD was at FL 270 had begun as a minor slip, but had grown into a strong idea that was resistant to challenge. Even when VH-CZD reported Taroom at FL 370, the controller heard what was expected rather than the actual words spoken.

Significant Factors:

The following factors were considered relevant to the development of the occurrence

1. Personal concerns, non-operational communications and fatigue probably distracted the controller from the primary task.
2. The controller annotated the incorrect altitude on the flight strip for VH-CZD.
3. The controller failed to detect the flight strip error when VH-CZD reported Taroom.
4. VH-CZD was given descent clearance without adequate separation from the conflicting traffic VH-TJA.