

**Aviation Safety Investigation Report  
199302223**

**Boeing Co  
B767  
McDonnell Douglas Corporation  
Hornet**

**24 July 1993**

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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.

<b>Occurrence Number:</b> 199302223		<b>Occurrence Type:</b> Incident	
<b>Location:</b>	'GWYDIR' ( reporting point near Moree)	<b>Inv Category:</b>	4
<b>State:</b>	NSW	<b>Time Zone</b>	EST
<b>Date:</b>	Saturday 24 July 1993		
<b>Time:</b>	1137 hours		
<b>Highest Injury Level:</b> None			
<b>Aircraft Manufacturer:</b>	Boeing Co		
<b>Aircraft Model:</b>	767-338ER		
<b>Aircraft Registration:</b>	VH-OGD	<b>Serial Number:</b>	24407
<b>Type of Operation:</b>	Air Transport Domestic High Capacity Passenger Scheduled		
<b>Damage to Aircraft:</b>	Nil		
<b>Departure Point:</b>	Cairns Qld		
<b>Departure Time:</b>	1017 EST		
<b>Destination:</b>	Sydney NSW		
<b>Aircraft Manufacturer:</b>	McDonnell Douglas Corporation		
<b>Aircraft Model:</b>	F/A-18A		
<b>Aircraft Registration:</b>		<b>Serial Number:</b>	
<b>Type of Operation:</b>	Non-commercial Other (including military)		
<b>Damage to Aircraft:</b>	Nil		
<b>Departure Point:</b>	Williamtown NSW		
<b>Departure Time:</b>	1112 EST		
<b>Destination:</b>	Townsville QLD		

**Approved for Release:** Friday, December 31, 1993

Pirate section [2 X FA18] departed Williamtown for Townsville on climb to Flight Level [FL] 310 at 1112 hours. The section was on a track direct to the reporting point GWYDIR which is the boundary position between Sydney and Brisbane air traffic control [ATC] areas of responsibility. This departure time was relayed to Brisbane sector control by Sydney sector via the intercom line and the Brisbane flight progress strips were activated. The GWYDIR strip at both AACCs indicated the same estimate of 1144 hours.

VH-OGD [Boeing 767] was proceeding at FL 370 on a regular public transport flight from Cairns to Sydney and was tracking via GWYDIR on the reciprocal track to Pirate section.

Sydney sector provided Brisbane sector with a radar identification of Pirate section when those aircraft were approximately 50 NM from the boundary. The leader of Pirate section then requested climb to FL 350 and, after all the appropriate coordination was carried out, this was approved by ATC.

Pirate section realised that they were making time against their flight plan and attempted to pass an amended estimate for GWYDIR to ATC. VHF communications between the aircraft and ATC were poor and, despite two or three attempts, this message was not received by ATC.

During this period the Brisbane sector controllers [procedural and radar] realised that the type of formation being used by Pirate section may involve an infringement of the 2,000 ft vertical separation standard required for the passing of the section with VH-OGD. Because of the poor communications with Pirate section, it required several transmissions to ascertain the type of formation being used and, as no definite answer was received from the crew, it was assumed that the aircraft were in Standard Formation. This meant that one aircraft could be up to 500 ft above the other and would therefore infringe the separation standard in use. Brisbane ATC decided to initiate a cruise level change to guarantee vertical separation and instructed Pirate section to descend to FL 340 with a requirement to reach that level by time 1140 hours. This instruction was acknowledged by Pirate section and complied with.

Brisbane sector had calculated the time of 1140 hours based on a time of passing which was calculated on the respective estimates at GWYDIR for both Pirate section and VH-OGD. Although GWYDIR was within radar coverage, the track that the aircraft were using left radar coverage approximately 30 NM north west of GWYDIR and therefore a procedural standard was required.

The Brisbane sector radar controller was monitoring the progress of Pirate section following the radar hand off from Sydney but did not inform the procedural controller that the section was significantly early in relation to their estimate for GWYDIR.

When Pirate section reported at GWYDIR at 1139 hours the Brisbane sector procedural controller realised that they were five minutes early and recalculated the time of passing on which the level change requirement was based. This resulted in the correct time for the Pirate section to reach FL 340 being 1137 hours and as they had not reported at that level until 1139 hours [their actual position at GWYDIR] a breakdown in separation may have occurred.

Pirate section were on radar at the time and VH-OGD appeared on the radar screen at about the same time approximately 30 NM north west of the position of Pirate section. This distance did constitute a radar standard but this could not be guaranteed until VH-OGD was identified by the radar controller [a situation that occurred after Pirate section had passed GWYDIR].

The crew of Pirate section stated that they had actually been maintaining FL 340 prior to GWYDIR and, although they cannot remember exactly how long before, it is probable that a breakdown in separation did not occur.

### Significant Factors

1. The poor VHF communications between ATC and Pirate section inhibited the passing of significant operational information.
  2. The communication between the Brisbane sector radar and procedural controllers was ineffective.
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