Aviation Safety Investigation Report 199601506

Airbus
A320
Boeing Co
B737-400

11 May 1996

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Aviation Safety Investigation Report

199601506

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:	199601506	**Occurrence Type:**	Incident
Location:	130km N Melbourne, Aerodrome		
State:	VIC	**Inv Category:**	4
Date:	Saturday 11 May 1996		
Time:	1724 hours	**Time Zone**	EST
Highest Injury Level:	None		

Aircraft Manufacturer:	Airbus		
Aircraft Model:	A320-211		
Aircraft Registration:	VH-HYH	**Serial Number:**	030
Type of Operation:	Air Transport Domestic High Capacity Passenger Scheduled		
Damage to Aircraft:	Nil		
Departure Point:	Melbourne Vic		
Departure Time:	1713 EST		
Destination:	Sydney NSW		

Aircraft Manufacturer:	Boeing Co		
Aircraft Model:	737-476		
Aircraft Registration:	VH-TJM	**Serial Number:**	24438
Type of Operation:	Air Transport Domestic High Capacity Passenger Scheduled		
Damage to Aircraft:	Nil		
Departure Point:	Melbourne Vic		
Departure Time:	1715 EST		
Destination:	Sydney NSW		

Approved for Release: Wednesday, April 30, 1997

FACTUAL INFORMATION

An Airbus A320 and a B737 departed from Melbourne enroute to Sydney approximately two minutes apart. The A320 departed first and the crew had planned to cruise at FL370, while the crew of the B737 had planned at FL330. Both crews were cleared by air traffic control to climb to their respective levels.

Airspace procedures for Instrument Flight Rules (IFR) flights operating in Class C airspace below 10,000 ft require aircraft to operate not above 250 kts indicated airspeed (IAS). Air traffic control may amend or cancel the speed restriction if the reduced speed is not required. After the two aircraft were airborne, the Departures North (DEPN) radar controller cancelled the speed restriction by instructing both crews to climb at their desired speed. The DEPN controller did not notify any other air traffic control position that the speed restriction had been cancelled.

Both aircraft transfered to the Inner North radar controller and, soon after, the crews were each instructed to reach FL330 by 80 NM Melbourne. Both crews acknowledged and readback the level requirement. The Inner North position had assumed control responsibility for the Inner West radar position due to the low level of traffic. This was normal practice when traffic levels at a position reduced such that the responsibility for the position could be consolidated with another control position. The controller was controlling one additional aircraft that was not normally the responsibility of the Inner North position.

Horizontal separation between the aircraft was approximately 12 NM with the ground speed of the A320 approximately 10 kts faster than the groundspeed of the B737. The air traffic control radar display provides a readout of aircraft ground speed which is used by controllers to assist in separating aircraft. During the next ten minutes the Inner North radar controller became involved in co-ordinating the separation and sequencing of a number of other aircraft and the horizontal distance between the A320 and the B737 reduced to 8 NM. The groundspeed of the B737 had increased and was approximately 100 kts faster than the groundspeed of the A320.

A controller from another radar position contacted the Inner North radar controller and queried him with regard to the high rate of closure between the two aircraft and the potential to lose horizontal separation. The Inner North radar controller instructed the crew of the B737 to turn left 30 degrees and to report the new heading. The B737 crew reported that the heading would be 360 degrees and asked the controller for the type of the aircraft ahead of them and, shortly after, for the level of that aircraft. The horizontal distance between the two aircraft was then 5 NM, with the groundspeed of the B737 just over 100 kts faster than the groundspeed of the A320. The Inner North radar controller advised the crew the aircraft ahead was an A320 at FL310.

The controller was required to acknowledge and transmit instructions to a number of aircraft before being able to return his attention to the A320 and the B737. The horizontal distance between the aircraft had reduced to 4 NM, with vertical separation of 700 ft and the groundspeed of the following B737 approximately 90 kts faster than the groundspeed of the A320. The crew of the B737 reported sighting the A320 and vertical separation of 2,000 ft was achieved after another two minutes. The controller cancelled the radar heading for the crew of the B737 and instructed them to rejoin their planned route. There was a breakdown in separation.

ANALYSIS

The cancellation of the speed restriction for aircraft below 10,000 ft by the Departures radar controller was not in itself a significant factor in the incident. However, the fact that the Departures radar controller did not advise the next control position that he had cancelled the restriction was significant, as the Inner North radar controller was not alerted to the possibility of a ground speed differential between the two aircraft. Had the Inner North radar controller known of the cancellation of the speed requirement, he may have more closely monitored the progress of the two aircraft.

A significant portion of the inner North radar controller's time was spent co-ordinating with another control position and this would appear to have diverted him from adequately monitoring aircraft separation on the radar display.

The inquiry by another controller alerted the Inner North radar controller to the proximity of the two aircraft and the high rate of closure due to the different groundspeeds. The Inner North radar controller became aware that the minimum horizontal and vertical separation was not going to be maintained and instructed the crew of the B737 to turn the aircraft away from the A320.

SIGNIFICANT FACTORS

1. The Departures North radar controller did not advise the Inner North radar controller that the speed restriction on the two aircraft had been cancelled.

2. The Inner North radar controller was distracted by coordination with another control position and did not adequately monitor the progress of the A320 and the B737.

3. Action by another controller alerted the Inner North radar controller to the proximity of the A320 and B737 and the significant difference in the groundspeeds.

SAFETY ACTION

The Bureau of Air Safety Investigation is evaluating aspects of separation asssurance techniques within air traffic control. The details of this occurrence will be used to support SADN 960051. Any forthcoming recommendations will be published in the Quarterly Safety Deficiency Report.