

**Aviation Safety Investigation Report  
199401435**

**Embraer-Empresa Brasileira de  
Aeronautica  
Bandeirante  
Short Bros Pty Ltd  
SD360-500**

**30 May 1994**

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

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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.

**Occurrence Number:** 199401435      **Occurrence Type:** Incident  
**Location:** 95km SSE Bundaberg  
**State:** QLD      **Inv Category:** 4  
**Date:** Monday 30 May 1994  
**Time:** 1620 hours      **Time Zone** EST  
**Highest Injury Level:** None

**Aircraft Manufacturer:** Short Bros Pty Ltd  
**Aircraft Model:** SD360-500  
**Aircraft Registration:** VH-FCU      **Serial Number:** SH3630  
**Type of Operation:** Air Transport Domestic Low Capacity Passenger Scheduled  
**Damage to Aircraft:** Nil  
**Departure Point:** Bundaberg QLD  
**Departure Time:** 1602 EST  
**Destination:** Brisbane QLD

**Crew Details:**

<b>Role</b>	<b>Class of Licence</b>	<b>Hours on Type</b>	<b>Hours Total</b>
Pilot-In-Command	ATPL 1st Class	2500.0	11500
Co-Pilot/1st Officer	Senior Commercial	2800.0	6500

**Aircraft Manufacturer:** Embraer-Empresa Brasileira de Aeronautica  
**Aircraft Model:** EMB-110P1  
**Aircraft Registration:** VH-XFO      **Serial Number:**  
**Type of Operation:** Air Transport Domestic Low Capacity Passenger Scheduled  
**Damage to Aircraft:** Nil  
**Departure Point:** Bundaberg QLD  
**Departure Time:** 1604 EST  
**Destination:** Brisbane QLD

**Crew Details:**

<b>Role</b>	<b>Class of Licence</b>	<b>Hours on Type</b>	<b>Hours Total</b>
Pilot-In-Command	ATPL 1st Class	2180.0	21130

**Approved for Release:** Friday, September 23, 1994

The two aircraft departed Bundaberg on flights scheduled for the same time. Both intended tracking direct to Brisbane at 9000 ft. The same flight pattern had been operated for some months. As a general rule VH-FCU departed first because of the start procedures required by VH-XFO. Because VH-XFO was faster in flight it was normal for that aircraft to overtake VH-FCU during the latter stages of the climb. Both aircraft would continue at their planned altitude with the crews knowing that the faster aircraft was in front and that the distance between the two aircraft was increasing.

On this occasion VH-XFO was overtaking VH-FCU and when about two miles behind that aircraft was turned onto a southerly heading. When the crew were satisfied that they had passed VH-FCU they turned to intercept their direct track (151 degrees). The climb was continued and some turns were made to remain in visual flight around cloud build-ups. After reaching 9000 ft and cruise speed the crew of VH-XFO advised that their ground speed was 215 kts. The speed of VH-FCU was 200 kts in the cruise.

Some time later, after VH-FCU came out of cloud, VH-XFO was seen at the same level and about 50m to the right. The crew of VH-FCU immediately turned left and descended. The crew of VH-XFO saw the other aircraft and commenced a climb to 10000 ft. VH-FCU was subsequently returned to 9000 ft.

Examination of recorded radar data confirmed the pilots' reports. The two aircraft were less than one mile apart before VH-XFO turned right to increase their spacing. When the aircraft reached their cruising altitude they were about 4 NM apart and VH-XFO was starting to move ahead of VH-FCU. When the crew of VH-XFO commenced their return to the planned track they conducted an intercept of about 30 degrees. This was later increased to 45 degrees when some manoeuvring around cloud was made. During this period the ground speed also reduced by up to 20 kts. As a result, when VH-XFO was turning, having intercepted the desired track, the two aircraft were in very close proximity to each other.

## SIGNIFICANT FACTORS

1. Both flights scheduled to depart at the same time.
2. Both flights elected to utilise the same cruising altitude.
3. The crew of VH-XFO did not realise the implications of:
  - diverting off track;
  - manoeuvring around weather; and
  - making a large-angle intercept of track.
4. The crews did not maintain adequate surveillance on their relative positions.

