

**Aviation Safety Investigation Report
199301146**

**Beech Aircraft Corp
Baron
Piper Aircraft Corp
Navajo**

27 April 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.

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: 199301146 **Occurrence Type:** Incident
Location: Perth
State: WA **Inv Category:** 3
Date: Tuesday 27 April 1993
Time: 0605 hours **Time Zone** WST
Highest Injury Level: None

Aircraft Manufacturer: Piper Aircraft Corp
Aircraft Model: PA-31
Aircraft Registration: VH-FWJ **Serial Number:** 31-7712092
Type of Operation: Non-commercial Unknown
Damage to Aircraft:
Departure Point: Perth WA
Departure Time: 0604 WST
Destination: Montague WA

Aircraft Manufacturer: Beech Aircraft Corp
Aircraft Model: 58
Aircraft Registration: VH-MLX **Serial Number:** TH-1078
Type of Operation: Charter Passenger
Damage to Aircraft:
Departure Point: Perth WA
Departure Time: 0605 WST
Destination: Paraburdoo WA

Approved for Release: Friday, October 8, 1993

The incident occurred just prior to official first light, during a shift change in both the control tower and the departure/arrivals centre and during a busy period.

During multiple departures in suitable weather conditions, the aerodrome controller is required to retain the aircraft on tower frequency and provide positive visual separation (diverging tracks) until the aircraft are handed off to the departure controller.

VH-FWJ and VH-MLX were departing, in turn, from runway 21 on the Perth to Ballidu track. Departure instructions were given to the aircraft which would allow them an unrestricted climb on headings 30 degrees apart (VH-FWJ on 360 degrees and VH-MLX on 030 degrees). When the departure controller passed the instructions to the aerodrome controller for relay to the aircraft, the aerodrome controller was reminded that he would be responsible for visual separation. However, the controller forgot to instruct the aircraft to remain on the tower frequency.

Both aircraft transferred to departure frequency shortly after takeoff. VH-FWJ commenced its turn on to 360 degrees as it passed through 1000 feet, 4 nautical miles from takeoff. VH-MLX (with a better climb performance than VH-FWJ) commenced its turn on to 030 degrees as it passed through 1000 feet 2 nautical miles from takeoff. The resultant tracks placed the aircraft in potential conflict.

Although the potential conflict was recognised by both the aerodrome controller and the departure controller, corrective instructions had to be passed to the aircraft by the departure controller, resulting in a short delay between when the potential conflict was identified and the aircraft were able to respond. As a result the radar returns came within half a nautical mile horizontally and less than 200 feet vertically. Although the two radar returns appeared to be very close together, the aircraft were observed to be visually apart at all times.

The investigation disclosed that although the traffic load was normal for that time of the day it was significant enough to prevent a comprehensive shift change briefing from being carried out in the tower. Evidence also indicated that the aerodrome controller was distracted by the activity associated with the shift change and this plus the combination of low external light conditions and high workload led to temporary task saturation. Consequently the aerodrome controller did not complete his assigned tasks nor did he register the reminder given by the departure controller.

SIGNIFICANT FACTORS

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

1. The aerodrome controller was distracted from his assigned tasks by the shift change which occurred during a time of high workload and less than optimum light conditions.
2. The aircraft had significantly different climb performance, with the climb profile of VH-FWJ being about half that of VH-MLX.
3. The provision of positive separation instructions from the tower was made difficult because the aircraft were not on the tower frequency. The delay associated with the provision of this information by the departure controller, although not excessive, was sufficient for the conflict to occur.

SAFETY ACTION

The following safety enhancement action was taken after the occurrence.

1. The Civil Aviation Authority reminded relevant Perth staff of the requirements for the application of visual separation during departure.
2. The Civil Aviation Authority took action to rearrange the tower shift change over so that it occurs prior to the known busy period which starts around 0600.

