Aviation Safety Investigation Report 199601247

Cessna Aircraft Company Conquest Fokker B.V. Fellowship

17 April 1996

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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:	199601247	Occurrence Type:	Incident
Location:	9km E Perth, Aerodrome		
State:	WA	Inv Category:	4
Date:	Wednesday 17 April 1996	i	
Time:	1435 hours	Time Zone	WST
Highest Injury Level: None			
Aircraft Manufacturer: Fokker B V			
Aircraft Model:	F28 MK 1000		
Aircraft Registration:	VH-FKE	Serial Number: 1	1040
Type of Operation:	Air Transport Training		
Damage to Aircraft:	Nil	>	
Departure Point:	Perth WA		
Departure Time:			
Destination:	Perth WA		
Aircraft Manufacturer: Cessna Aircraft Company			
Aircraft Model:	441		
Aircraft Registration:	VH-LBX	Serial Number:	4410091
Type of Operation:	Charter Passenger		
Damage to Aircraft:	Nil		
<b>Departure Point:</b>	Yandicoogina WA		
<b>Departure Time:</b>			
Destination:	Perth WA		

Approved for Release: Wednesday, April 30, 1997

## FACTUAL INFORMATION

A Fokker F28 aircraft was conducting pilot training in the Perth terminal area. The terminal information indicated that runway 03 was to be used for departure tracks to the west of the extended runway 21/03 centreline and runway 06 for other departures. Runway 03 was to be used for arriving aircraft. The weather was CAVOK (No cloud below 5,000 ft and with a visibility greater than 10 km). To assist with the management of the training aircraft, the aerodrome controller (ADC) had received an airspace release within 5 NM of the aerodrome to the east of the centreline of runway 21/03 and up to an altitude of 1,500 ft. Traffic levels were moderate and the runway configuration increased the complexity of the traffic sequence. The control tower was normally manned by three air traffic controllers. One of the controllers was required to leave the tower and there was no replacement available. The control tower was then manned by the ADC and the tower co-ordination (COORD) controller.

The F28 had completed an instrument landing system (ILS) approach to runway 24. The crew of the F28 requested to overshoot to the left from the approach and then to conduct a right circuit to runway 03. The crew were cleared to overshoot to the left on climb to 1,500 ft and to remain east of the centreline of runway 21/03. The crew of the F28 complied with the clearance and remained east of runway 21/03.

An international Boeing B747 aircraft was being radar vectored for positioning on a left base for runway 03 and a Cessna Conquest C441 was being radar vectored from the east of Perth for a right base to runway 03. The pilot of the C441 had been cleared to descend to 2,500 ft.

The ADC determined that there would be insufficient time for the F28 to land on runway 03 before the B747. The ADC decided to hold the F28 to the southeast until the B747 had landed. The ADC's intention was to then instruct the crew of the F28 to continue for a landing on runway 03. The approach radar east (APPE) controller required the F28 to leave the circuit area to enable the C441 to descend for landing and to assist with the approaches of three following aircraft. The APPE controller co-ordinated with the ADC for the F28 to track to Parkerville, located to the northeast of the aerodrome, on climb to 2,500 ft for another ILS and for the C441 to be positioned on a close right base for runway 03. The ADC agreed with the proposal.

The APPE controller was aware that the F28 and the C441 may conflict. The APPE controller used non-standard phraseology to instruct the ADC to not approve the climb to 2,500 ft for the F28 until the C441 was closer to the aerodrome. The APPE controller also requested advice from the ADC of when the C441 could descend below 2,500 ft. The two controllers did not establish who was to be responsible for separating the F28 and the C441, or co-ordinate suitable clearances which would provide separation assurance between the aircraft.

The ADC believed that if the crew of the F28 received the instruction to track to Parkerville immediately, that the separation with the C441 would be maintained. The ADC instructed the crew of the F28 to track to Parkerville and to climb to 2,500 ft.

After observing the landing of the B747, the ADC returned his attention to the F28. The ADC did not request the COORD controller, who was a rated ADC, to assist in the monitoring of aircraft. The ADC noticed that the F28 had tracked further to the south than expected and that this had placed the aircraft in conflict with the C441. The ADC attempted to contact the crew of the F28 but was unsuccessful, as they had previously been instructed to call the APPE controller. Visual separation from the tower could not be used due to the proximity of the aircraft to each other. The APPE controller instructed the pilot of the C441 to climb to 3,000 ft and to turn to the south for separation. The aircraft passed with approximately 1 NM horizontal separation and 500 ft vertical separation. The required separation was 3 NM horizontally or 1,000 ft vertically. There was a breakdown in separation.

## ANALYSIS

As the aircraft would possibly conflict at a point close to the boundary of both controller's area of responsibility, the ADC and the APPE controllers needed to co-ordinate a separation procedure to ensure separation was maintained between the inbound C441 and the outbound F28. The controllers also needed to establish which of them would undertake responsibility for the separation and for both aircraft to be transferred to that controller's radio frequency for the application of separation.

The co-ordination between the controllers did not adequately address these aspects and consequently there was a lack of separation assurance.

The ADC could have utilised the COORD to monitor some of the traffic during the period when visual separation was to be applied. The ADC possibly became distracted with other traffic and did not adequately monitor the flight of the F28 with reference to the C441.

## SIGNIFICANT FACTORS

1. The ADC and APPE controllers did not co-ordinate an adequate separation procedure before transferring each aircraft to the other control position.

2. The ADC did not utilise the COORD controller to assist in the monitoring of aircraft.