



**Preliminary Factual Serious Incident Report**

**AIC 16 -2001**

**PAPUA NEW GUINEA  
ACCIDENT INVESTIGATION COMMISSION  
SHORT SUMMARY REPORT**

**Breakdown of Separation**

**Air Niugini**

**P2-AND**

**Fokker 100**

**SIL Aviation**

**Quest Kodiak K100**

**P2-SIR**

**3.5 nm northwest of Nadzab Airport, Morobe Province**

**PAPUA NEW GUINEA**

**16 December 2016**

## **About the AIC**

The Accident Investigation Commission (AIC) is an independent statutory agency within Papua New Guinea (PNG). The AIC is governed by a Commission and is entirely separate from the judiciary, transport regulators, policy makers and service providers. The AIC's function is to improve safety and public confidence in the aviation mode of transport through excellence in: independent investigation of aviation accidents and other safety occurrences within the aviation system; safety data recording and analysis; and fostering safety awareness, knowledge and action.

The AIC is responsible for investigating accidents and other transport safety matters involving civil aviation, in PNG, as well as participating in overseas investigations involving PNG registered aircraft. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The AIC performs its functions in accordance with the provisions of the PNG Civil Aviation Act 2000 (As Amended), Civil Aviation Rules 2004 (as amended), and the Commissions of Inquiry Act 1951 (as amended), and in accordance with Annex 13 to the Convention on International Civil Aviation.

The object of a safety investigation is to identify and reduce safety-related risk. AIC investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the AIC to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the AIC endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why it happened, in a fair and unbiased manner.

## **About this report**

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation.

On 20 December 2016 at around midday, the AIC received an email that had been sent 30 minutes prior from the operator of a Quest Kodiak aircraft registered P2-SIR regarding a breakdown of separation (BOS) between SIR and another aircraft, which occurred approximately 3.5 nm northwest of Nadzab Airport. The details of the other aircraft were not known by the operator of SIR. The BOS occurred at 10:57 am on 16 December 2016; four days prior to the notification to the AIC. It was not reported by the operator of the other aircraft or Air Traffic Services. The AIC has determined that it was a serious incident and commenced an investigation.

The AIC has produced this Preliminary Factual Serious Incident Report in compliance with Annex 13 to the Chicago Convention on International Civil Aviation.

## Breakdown of separation involving a Fokker F100 and a Quest Kodiak K100

### Occurrence Details

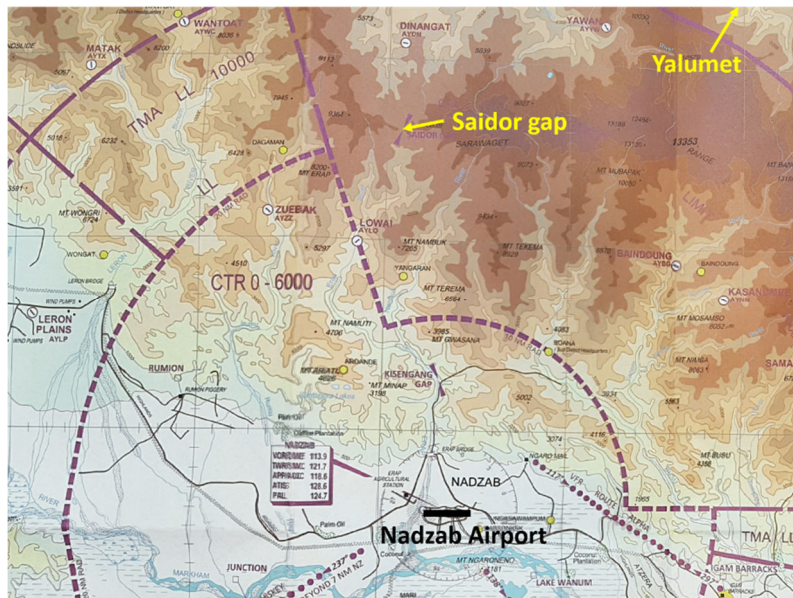
On 16 December 2016, at 00:57 (UTC)<sup>1</sup> a Fokker F100 aircraft, registered P2-AND (AND), operated by Air Niugini Ltd, and a Quest Kodiak K100 aircraft, registered P2-SIR (SIR), operated by SIL Aviation, were involved in a breakdown of separation serious incident 3.5 nm northwest of Nadzab Airport, Morobe Province.

The pilot of SIR reported that he diverted from his planned destination Yalumet to Nadzab Airport, due to adverse weather. He tracked towards Nadzab via the Saidor Gap, located 20 nm north of Nadzab Airport, to remain in visual meteorological conditions. He obtained an airways clearance from Moresby Flight Service for the new destination, Nadzab, and was cleared to track 166 degrees to Nadzab, with an instruction to enter controlled airspace on climb to 12,000 ft, and to contact the Approach Controller at Nadzab.

He transferred to Nadzab Approach as instructed, and advised the controller that he was “*tracking inbound on the 166 radial, 16 miles to run, maintaining 12000 ft, with infor Charlie. Request top of descent. ETA Nadzab on the hour*”. Shortly after, the pilot of SIR informed the Approach Controller that he was heading 157 with a track of 157. The Approach controller then cleared SIR to “*track 157 to the field*”, and cleared the aircraft to descent to 3,000 ft visual, and transfer to the Tower Controller at 10 miles.

The Tower Controller informed SIR of traffic, a Fokker 100 that had just departed Nadzab for Momote and was on a right turn, tracking on the 300 degree radial of the Nadzab VOR<sup>2</sup>

. The pilot of SIR was then cleared for a visual approach, and to track for mid-right downwind for runway 27. The pilot of SIR informed the controller that he should be clear of the Fokker in his sector and on the track he was flying to intercept mid-right downwind for runway 27.



**Figure 1: Map of Nadzab and Saidor Gap area**

<sup>1</sup> The 24-hour clock, in Coordinated Universal Time (UTC), is used in this report to describe the local time as specific events occurred. Local time in area of the accident, Papua New Guinea Time (Pacific/Port Moresby time) is UTC + 10 hours

<sup>2</sup> VOR: Very high frequency omni-directional radio range

The Fokker, AND, departing off runway 27 for Momote had been issued with a Standard Departure Clearance 36 (via the 003 degree radial of the Nadzab VOR), on an unrestricted climb to flight level (FL) 290 (29,000 ft). The Tower Controller had informed the pilot of SIR that AND was tracking via the 300 degree radial. However, at that time AND was in a right turn off runway 27 and tracking to intercept the 003 radial in accordance with its airways clearance. The pre-departure clearance instruction given to AND at no time mentioned the 300 degree radial. When the crew of AND transferred to the Approach Controller to report their departure, the pilot reported that they were 4 DME, and passing 3,500 ft climbing to FL290.

The pilot in command of AND informed the investigators that as they were passing 6,000 ft on climb in the turn, a TA symbol appeared on their TCAS flight instrument and indicated that the opposing aircraft was 600 ft below them. They informed the controller that they were in a “TCAS climb”. Twenty-four seconds later the pilot of AND reported that they were 5 DME<sup>3</sup> passing 8,000 ft, and were clear of the conflict and had a visual sighting of the other aircraft 600 ft below them.

At that time the pilot of SIR was on the Tower frequency, and reported that as a “*caution*” he was climbing again to 7,000 ft, because of traffic at 2 miles. Eighty-two seconds later, the pilot of SIR reported that his aircraft was clear of the traffic and that he was descending again to 3,000 ft.

### **Nadzab**

Nadzab Airport is located 30 km north west of Lae city, in the Morobe Province. The airspace at Nadzab is controlled from ground level to 15,000 ft, with different control area steps in different sectors, depending on the terrain. Flights into Nadzab Airport coming from non-controlled airspace normally obtain their clearances from Moresby or Madang Flight Services. The clearances were normally authorised by the Approach controller at Nadzab through coordination channels either by telephone on intercom lines.

### **Meteorological Conditions**

The weather at Nadzab Airport was clear of cloud, however there were a few clouds towards the north and northwest of the airport. Most of the area around the airport was clear of cloud and visual meteorological conditions existed.

### **Recorded data**

The Kodiak, SIR, was not equipped with a cockpit voice recorder or a flight data recorder, nor were they required by PNG aviation legislation.

Due to the delayed notification of the serious incident to the AIC (4 days), and the further delay in identifying the other aircraft, and then accessing it to quarantine the flight recorders, recorded data from AND was not available for the investigation.

TCAS<sup>4</sup> and TAS<sup>5</sup> data also was not recorded by either aircraft.

The Air Traffic Services recorded data obtained by the AIC contained good quality data.

### **Ongoing investigation**

The investigation is continuing and will include an analysis of Air Traffic Services recorded information, interviews with the flight crew of both aircraft, and the air traffic controllers.

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<sup>3</sup> DME: Distance Measuring Equipment.

<sup>4</sup> TCAS: Traffic Alert and Collision Avoidance System.

<sup>5</sup> TAS: Traffic Avoidance System.

## General Details

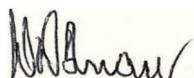
Date and time:	16 December 2016, 00:57 UTC	
Occurrence category:	Serious Incident	
Primary occurrence type:	Breakdown of Separation	
Location:	3.5 nm Northwest of Nadzab Airport	
	Latitude: 06° 34, 153' S	Longitude: 146° 43.684 E

## Aircraft Details

Manufacturer and model:	Fokker F100	
Registration:	P2-AND	
Serial number:	11473	
Type of operation:	RPT	
Persons on board:	Crew: 5	Passenger: 85
Injuries:	Crew: Nil	Passengers: Nil
Damage	Nil	

Manufacturer and model:	Quest Aircraft Company, Kodiak K100	
Registration:	P2-SIR	
Serial number:	100-0038	
Type of operation:	Private	
Persons on board:	Crew: 1	Passengers: 2
Injuries:	Crew: Nil	Passengers: Nil
Damage	Nil	

## Approved



**David Inau, ML**

**Chief Executive Officer**

**12 January 2017**