



PRELIMINARY REPORT

AIC 19 - 2002

Air Niugini Limited

P2-ANY

Fokker 70

**Decompression / Depressurisation resulting in deployment of
oxygen masks**

25 nm NE Jackson International Airport, Port Moresby

Papua New Guinea

21 November 2019

ABOUT THE AIC

The 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 serious incidents 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 air transport, with particular regard to scheduled and non-scheduled operations.

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

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

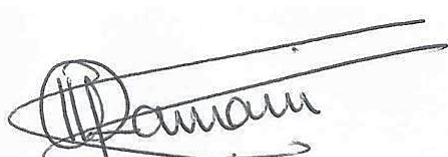
The AIC received a notification from PNG Air Services Limited and dispatched a team of investigators to Air Niugini Limited, Head Office and immediately commenced investigations.

This *Preliminary Aircraft Serious Incident Investigation Report* was produced by the AIC, PO Box 1709, Boroko 111, NCD, Papua New Guinea. It is publicly released by the Commission in accordance with *Para 6.5 of ICAO Annex 13*. The report is published on the AIC website: www.pngaic.gov.pg.

The report is based on the initial investigation carried out by the AIC in accordance with Papua New Guinea *Civil Aviation Act 2000 (as amended)*, *Chapter 31 of the Commissions of Inquiry Act, Annex 13* to the *Convention on International Civil Aviation*, and the *PNG AIC Policy and Procedures Manual*. It contains factual information. Analysis of these information, findings and contributing (causal) factors, other factors, safety actions, and safety recommendations are reserved for the *Final Report*.

The sole objective of the investigation and the *Preliminary Report* is the AIC's obligation to the *Convention on International Civil Aviation* and in accordance with *ICAO Annex 13*, and thereby promote aviation safety. (Reference: *ICAO Annex 13, Chapter 7*). Readers are advised that in accordance with Section 219 of the *Civil Aviation Act 2000 (as amended)* and *Annex 13*, it is not the purpose of the Commission's aircraft accident investigation to apportion blame or liability. Fact based statements in the report should not be interpreted as apportioning blame.

Consequently, AIC reports are confined to matters of safety significance and may be misleading if used for any other purpose.



Hubert Namani, LLB
Chief Commissioner

17 December 2019

Occurrence details

On 21 November 2019, at 05:21 UTC¹ (15:21 local), a Fokker 70 aircraft, registered P2-ANY, owned and operated by Air Niugini Limited, travelling on a passenger flight from Tokua International Airport, East New Britain to Jacksons International Airport, Port Moresby, experienced a rapid decompression/depressurisation event while descending through about 23,000 ft², and 25 nm North East of Jacksons.

The flight crew stated that they initially noticed an MFDS³ cabin altitude message and Master Caution alert⁴ as they were passing 24,000 ft. At about 23,000 ft, the 'Excessive Cabin Altitude' warning activated along with the Master Warning alert. The flight crew carried out the 'Excessive Cabin Altitude' emergency checklist⁵, broadcast a 'PAN, PAN'⁶ and commenced an emergency descent to 10,000 ft. At the onset of the emergency, the flight crew donned their oxygen masks and manually deployed the passenger oxygen masks. At about 10,000 ft, the flight crew reverted to the normal descent and continued to land at Jacksons Airport.

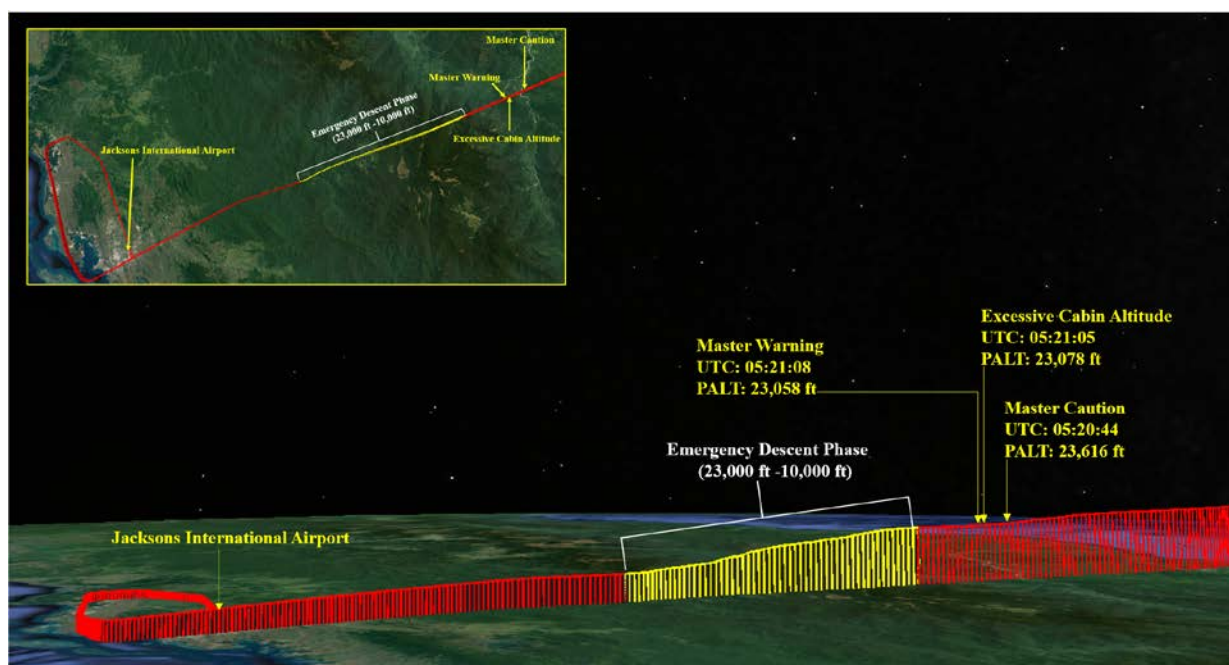


Figure 1: Depiction of flight path from descent to landing phases.

Information gathered at this time indicates all 45 occupants of the aircraft; two pilots, two cabin crew and 41 passengers did not sustain injuries as a result of the occurrence.

¹ 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 the area of the serious incident, Papua New Guinea Time (Pacific/Port Moresby Time) is UTC + 10 hours is UTC + 10 hours.

² The symbol for 'feet' - unit of measurement.

³ Multifunction Display System SOURCE FOKKER: AIRCRAFT OPERATION MANUAL

⁴ Annunciation of level 2 alerts which requires immediate pilot awareness and subsequent corrective or compensatory action

⁵ Emergency procedures for an *Excessive Cabin Altitude* emergency presented in a form of checklist in Air Niugini Limited Quick Reference Handbook (QRH).

⁶ A radiotelephony urgency signal consisting of the spoken words 'PAN, PAN' mean that an aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or of some person on board or within sight. SOURCE: 'RULES OF THE AIR' ANNEX 2 TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION.

Altitude and Cabin Pressurisation

According to various studies on human physiology in the air environment, above 10,000 ft of altitude in the Standard Atmosphere, the use of supplementary oxygen is anticipated to avoid adverse physiological effects that could occur as a result of human exposure to the decrease in atmospheric pressure and lower concentrations of oxygen.

Aircraft equipped with pressurisation systems, even when physically operated at altitudes well above 10,000 ft, have the capacity to maintain an internal pressure as though it were flying at 8,000 ft or lower, which allows normal human performance without the need for supplementary oxygen.

In the event of a cabin depressurisation during flight, the occupants of the aircraft are exposed to the existing conditions at the physical altitude in which the aircraft is flying, hence the use of supplementary oxygen becomes necessary to avoid adverse physiological effects.

AIC comment

The investigation is continuing and will include the aircraft, its engines, maintenance and organisational aspects, safety management systems, regulatory, audit and surveillance aspects and other areas as applicable.

The investigation analysis and findings will be included in the Final report.

Safety Action

At the time of the issue of this Preliminary report, no safety action had been taken.

Recommendations

At the time of the issue of this Preliminary report, no *Safety Recommendation* had been made by the AIC.

General Details

Date and time:	21 November 2019, 05:25 UTC	
Occurrence category:	Serious Incident	
Primary occurrence type:	System/component failure or malfunction – Non Powerplant (SCF-NP)	
Location:	25 nm North East of Jacksons International Airport, Port Moresby.	
	Latitude: 08° 58'06" S	Longitude: 147° 55' 35" E

Crew details

Pilot In Command (PIC)

Nationality:	Australian
Licence type:	ATPL
Licence number:	P210085
Total hours:	21,223
Total hours in Command:	16,557
Total hours on type:	707.72

First Officer (FO)

Nationality:	New Zealander
Licence type:	ATPL
Licence number:	P20734
Total hours:	5,700
Total hours on type:	750

Cabin Crew 1 (CC1)

Nationality:	Papua New Guinean
Certificate type:	Fokker 100/70 Emergency Procedures Certificate
Certificate expiry date:	30 July 2020
Total hours:	3074.85 hours
Total hours on type:	2082.57 hours

Cabin Crew 2 (CC2)

Nationality:	Papua New Guinean
Certificate type:	Fokker 100/70 Emergency Procedures Certificate
Certificate expiry date:	29 June 2020
Total hours:	941.07 hours
Total hours on type:	503.27 hours

Type of Operation, Injury and damage details

Type of operation:	Scheduled	
Persons on board:	Crew: 4 (PIC, FO, SCC & CC)	Passengers: 41
Injuries:	Crew: None	Passengers: None
Damage	Repairable	

Aircraft Details

Aircraft manufacturer and model:	Fokker
Registration:	P2-ANY
Serial number:	11551

Engine Data

Engine type:	Rolls Royce Tay
Manufacturer:	Rolls-Royce
Model:	Tay620-15
Engine number one (Left)	
Serial number:	17128
Total Time since new:	33532.59
Cycles since new:	35294
Engine number two (Right)	
Serial Number:	17146
Total Time since new:	31536.38
Cycles since new:	30995