



PRELIMINARY REPORT

AIC 17-1003

Bayswater Road

VH-ATO

Government Aircraft Factory (GAF) Nomad N22C

Wheels up landing due to failed undercarriage

Buka Aerodrome, Autonomous Region of Bougainville

PAPUA NEW GUINEA

8 December 2017

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)*, and the *Commissions of Inquiry Act 1951*, 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, were based on many factors, including the level of safety benefit likely to be obtained from the investigation. For this occurrence, fact-gathering investigation was commenced. As the aircraft sustained significant damage to both landing gear pods and the nose forward of the nose locker, the occurrence was classified as an accident. This Preliminary Report has been produced in accordance with the *PNG Civil Aviation Act 2000 (as amended)*, *ICAO Annex 13* to the Chicago Convention on International Civil Aviation, and the *PNG Accident Investigation Commission's Policy and Procedures*.

Nomad N22C landing gear malfunction — aircraft landed with wheels retracted

Occurrence details

On 8 December 2017, at 00:17 UTC¹ (10:17 local time), an Australian registered GAF Nomad N22C aircraft, registered VH-ATO (ATO), owned and operated by Bayswater Road Ltd, departed Buka Aerodrome, Autonomous Region of Bougainville Province, conducting an aerial survey under VFR². The planned destination was last departure point; Buka Aerodrome. The pilot-in-command (PIC) was the sole occupant.

The pilot reported that when doing the pre-landing checks the landing gear failed to extend. He attempted to deploy the landing gear using the emergency system (which consists in a manual pump), but the handle of the manual pump broke after three to four pumps. The pilot decided to perform a landing in the grassy flight strip, which was about 32 metres to the right of the sealed runway centerline.



Figure 1: VH-ATO landing wheels up in the grassy flight strip



Figure 2: Broken landing gear manual extension pump handle

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 accident, Papua New Guinea Time (Pacific/Port Moresby Time) is UTC + 10 hours.

² Visual Flight Rules

There was significant damage to both landing-gear pods and the nose forward of the nose locker. The landing gear doors had significant skin damage and were not aligned with the pods. The nose cone was punctured and torn on the underside.



Figure 3: Skin damage of the main landing gear doors



Figure 4: Puncture hole on the underside of the Nose Cone

The lower attachment points of both wings' struts came into contact with the landing-gear pods and fracturing the pods side skins. The trailing skin on the left lower strut was bent.

AIC Comment

The investigation is continuing and will include an analysis of the reason(s) the landing gear failed to extend, and the failure mode of the manual gear extension pump handle. The operator is assisting the AIC with the investigation.

General Details

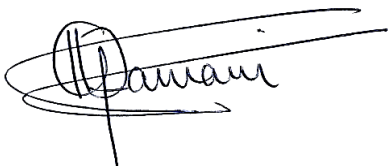
Date and time	8 December 2017 — 00:17 UTC approximately	
Occurrence category	Accident	
Primary occurrence type	Wheels-up landing	
Location	Buka Aerodrome, Autonomous Region of Bougainville, PNG	
Coordinates	Latitude: 05° 25'20"S	Longitude: 154°40'21"E

Crew details

Pilot in Command	
Nationality	Australian
Licence type	CPL (A)
Licence number	792648
Total hours	2,545
Total hours on type	143
Total hours last 30 days	34

Aircraft Details

Aircraft manufacturer and model	Government Aircraft Factory Nomad N22C	
Registration	VH-ATO	
Serial number	108	
TTIS	11,053	
Engines		
Engine manufacturer and model	Rolls Royce-Allison 250 B17C	
Not damaged Not a factor in the occurrence		
Type of operation	Non-commercial circuits	
Persons on board	Crew: 1	Passengers: NIL
Injuries	Crew: NIL	Passengers: NIL
Damage	Substantial	

Approved

Hubert Hanjause Namani, LLB*Chief Commissioner***20 December 2017**