



PRELIMINARY REPORT

AIC 23-1005

Tropicair Limited

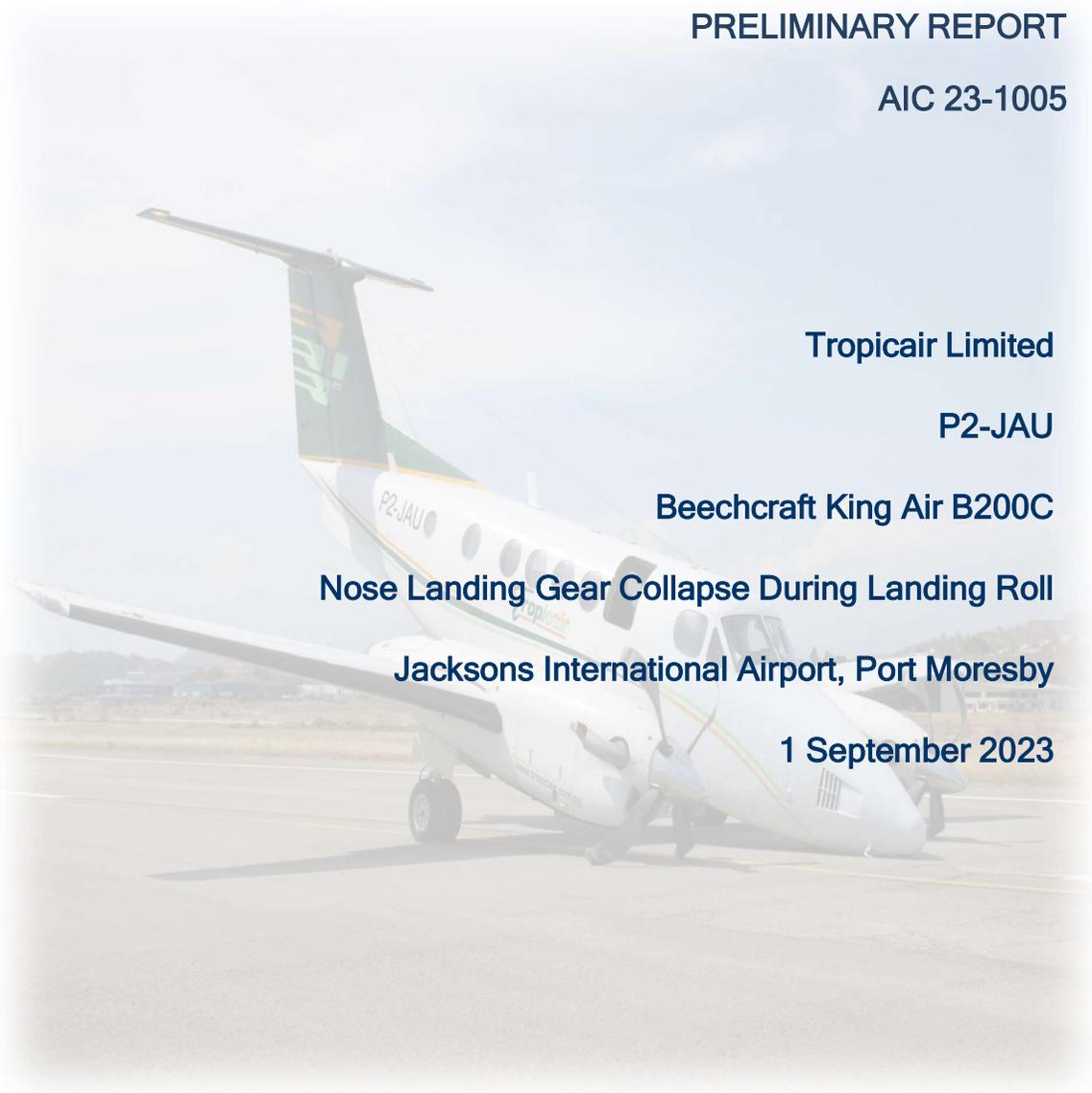
P2-JAU

Beechcraft King Air B200C

Nose Landing Gear Collapse During Landing Roll

Jacksons International Airport, Port Moresby

1 September 2023



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 *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.

On 01 September 2023 at 12:51 local time (02:51 UTC), the AIC was notified by an employee of the AIC through a phone call of an accident involving a Beechcraft King Air B200C aircraft, registered P2-JAU, owned and operated by Tropicair Limited at Jacksons International Airport, Port Moresby. The AIC immediately commenced an investigation.

This Preliminary Aircraft Accident Investigation Report was produced by the AIC, and contains facts known to the AIC before the official release date. It is developed by the Commission in accordance with Para 7.1 of *ICAO Annex 13*. The report is also published on the AIC website: www.aic.gov.pg.

The report is based on the initial investigation activities 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 Investigation Policy and Procedures Manual*. It contains factual information. Analysis of that 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.



Captain Aria Bouraga, MBE

Acting Chief Commissioner

26 September 2023

Occurrence Details

On 1 September 2023, at 12:51 local (02:51 UTC¹), a Beechcraft B200C Super King Air aircraft, registered P2-JAU, owned and operated by Tropicair Limited, operating a non-scheduled passenger charter flight from Tari Airport, Hela Province to Jacksons International Airport, National Capital District, sustained a landing gear assembly collapse during the landing roll at Jacksons runway 14R.

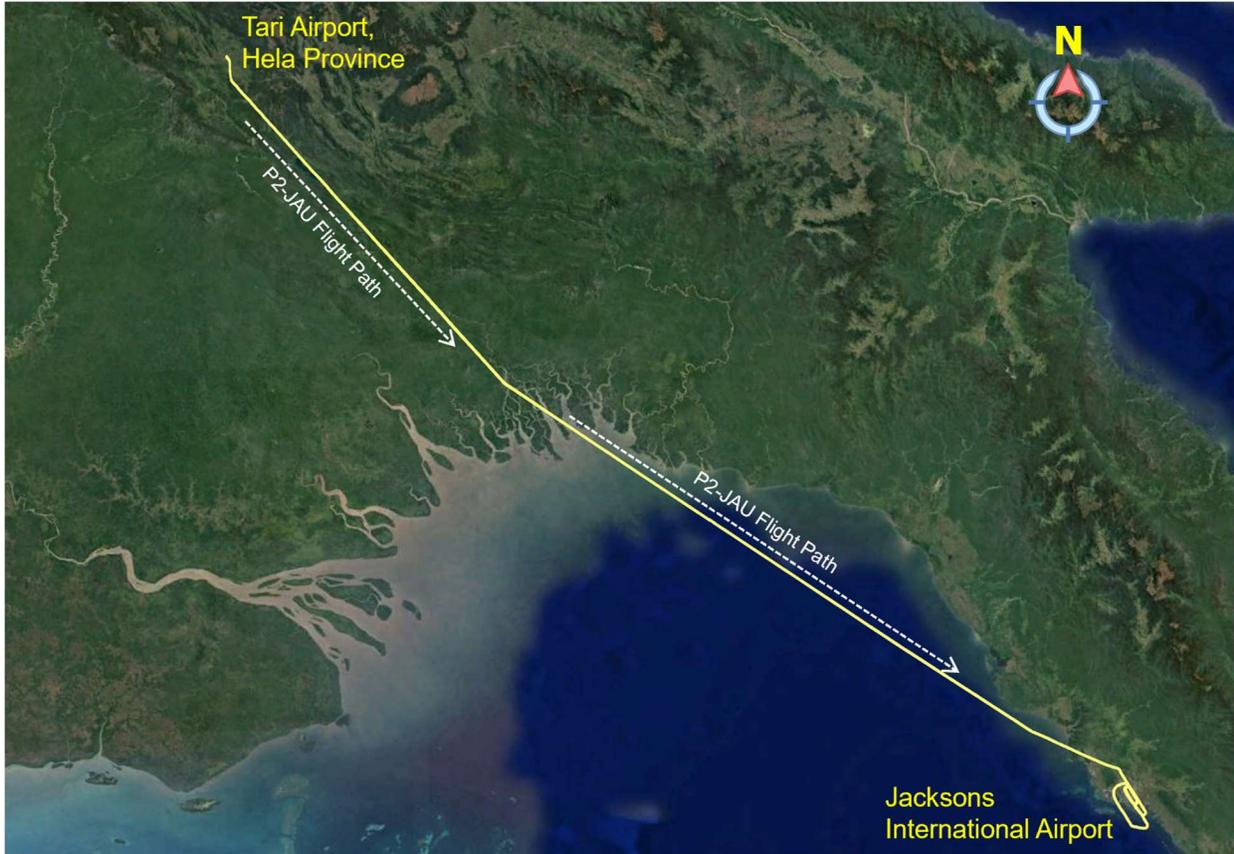


Figure 1: P2-JAU depiction of occurrence Flight path from Tari Airport to Jacksons International Airport

There were 7 persons on board the aircraft; 2 pilots and 5 passengers.

According to recorded data, the aircraft² departed Tari Airport at 11:46, climbed to an altitude of 27,000 ft AMSL³ and began tracking southeast for Port Moresby.

At 02:11 when the aircraft was about 29 NM north-west of Jacksons Airport, following ATC clearance, the crew⁴ completed their descent actions and commenced their descent to 2500 ft for an ILS⁵ approach for runway 14L.

At 02:15, the crew received clearance from ATC for the Runway 14L ILS approach. The crew carried out the pre-landing checks as they established on the ILS approach at 10 DME⁶.

During the approach, about 7 NM from the runway, after the crew selected the switch to extend the landing gear, the crew observed an 'Unsafe Gear Indication' in the cockpit; they got two greens and one red. The red light was illuminated for the Nose Landing Gear (NLG), indicating that the nose landing gear was not locked into the fully extended position. The crew tried recycling by retracting and extending the landing gear again. However, the same indication was observed.

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 + 10hours.

² P2-JAU

³ Above Mean Sea Level

⁴ PIC and co-pilot

⁵ Instrument Landing System

At 02:18, the crew advised ATC that they were conducting a missed approach due to an unsafe gear indication. ATC advised the crew to continue runway heading and climb to and maintain 2,500 ft altitude. The crew stated during interview that they subsequently actioned the Manual Undercarriage Extension procedure from the Quick Reference Handbook (QRH) but the same indication was observed.

At 02:22, the flight crew contacted ATC and requested for a right-hand circuit and low pass so ATC could confirm the position of the NLG. ATC then cleared the aircraft to join a runway 14L right circuit for the low pass. At 02:24, ATC cleared the aircraft to continue approach on Runway 14L and subsequently gave clearance for a low pass for tower personnel to observe and report on the NLG. ATC personnel observed the NLG and advised the crew that the NLG was down but appeared to be at an odd angle.

ATC subsequently called and informed the Airport Rescue and Fire Fighting team (ARFF) and requested them to position and standby for a potential airport emergency on Runway 14R. A full-scale AEP was reportedly activated. Three fire trucks with ARFF personnel were deployed and reportedly positioned at Taxiway Foxtrot at 02:29.

The crew requested for another low pass at 02:31 to allow Tropicair engineers to observe the NLG from the ground and report to the crew. ATC cleared the flight crew to conduct the low pass over runway 14R. The crew conducted the low pass and climbed back to 1,500 ft. Engineers advised the crew that the NLG was not in the fully extended position.

At 02:37, the flight crew advised ATC that they had conducted crew actions to rectify the issue, but the unsafe gear indication remained. The crew requested to land on Runway 14R. ATC subsequently instructed them to climb to 2,500 ft and maintain runway heading due to traffic.

The crew continued to coordinate with ATC to position for a landing on runway 14R. The crew then briefed the passengers of the emergency and on what to expect and do on landing and then they carried out the pre-landing checks.

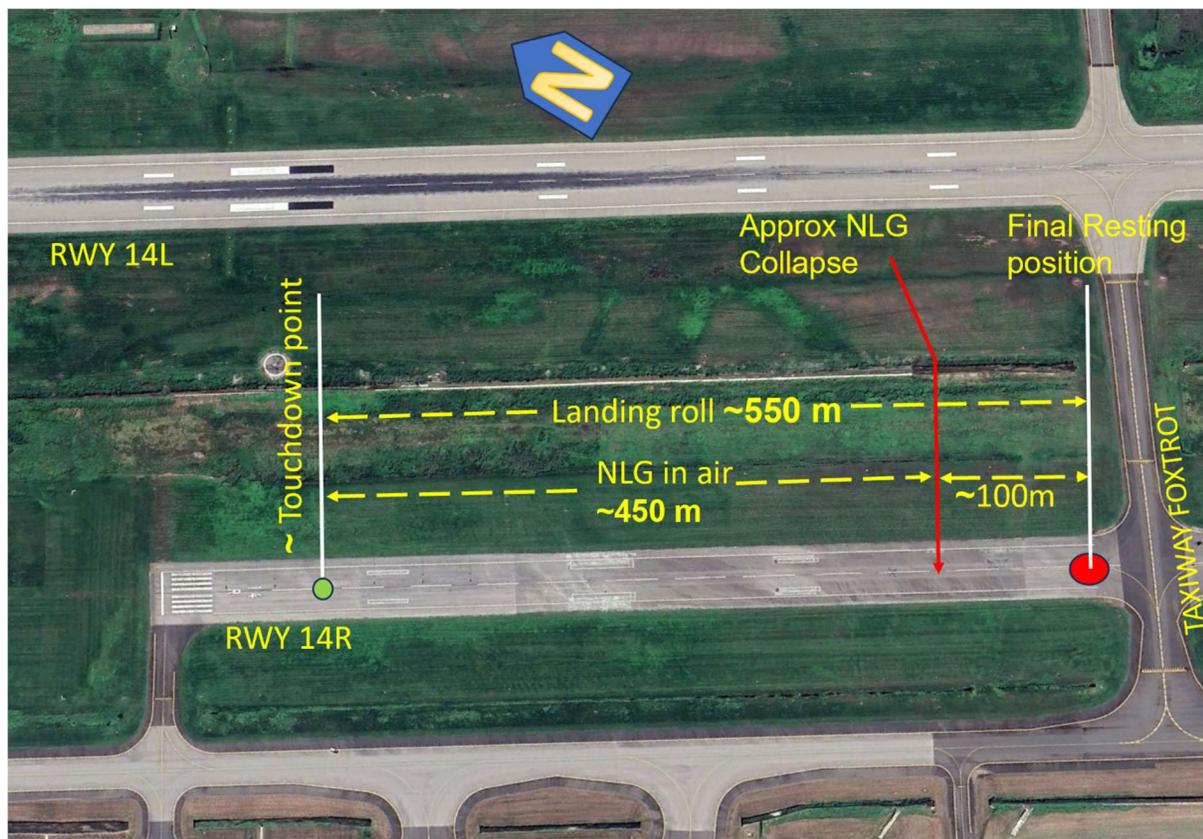


Figure 2: P2-JAU landing roll on Runway 14R.

At 02:49, ATC cleared the aircraft for landing on runway 14R. The flight crew conducted the approach for runway 14R. The aircraft touched down at 02:51. The aircraft rolled for about 450 m before the NLG collapsed and the nose dropped to the ground. The aircraft continued forward with momentum for another 100 m before coming to rest adjacent to taxiway foxtrot where ARFF were standing by for emergency assistance.

It was reported that a precautionary disembarkation was carried out. The flight crew with the assistance of ARFF assisted the passengers to exit and move away from the aircraft.



Figure 3: P2-JAU observed damage at occurrence site

It is reported that none of the persons on-board were injured during the accident and subsequent disembarkation.

Damage

The aircraft sustained substantial damage to both left and right propeller assemblies, nose structure and left and right nose landing gear (NLG) doors.

AIC comment

The investigation is continuing and intends to understand the reason for the failure of the nose landing gear normal and emergency systems. The investigation will also include but not limited to the operations, systems, performance, maintenance and serviceability, organisational aspects, design, and manufacture.

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

Safety Actions

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

Recommendations

At the time of the issue of this Preliminary Report, no Recommendation had been made by the PNG AIC.

General Details

Date and time	1 September 2023, 12:51 (02:51 UTC)	
Occurrence category	Accident	
Primary occurrence type	System/component failure or malfunction [non-powerplant].	
Location	Jacksons International Airport, Runway 14R, approaching intersection of 14R/32L and Taxiway Foxtrot.	
	Aerodrome Elevation:129 ft Threshold Elevation:104 ft	
	Latitude: 09° 26' 25"S	Longitude: 147° 13' 07"E

Crew details

Pilot in Command

Gender	Male
Age	67
Nationality	Canadian
Licence type	ATPL (Aeroplane)
Total hours	32,127.7
Total hours in Command	29,588.4
Total hours on type	13,325

Co-pilot

Gender	Male
Age	28
Nationality	Papua New Guinean
Licence type	CPL (Aeroplane)
Total hours	606.3
Total hours in Command	103
Total hours on type	302

Type of Operation, Injury, and damage details

Type of Operation	Non-scheduled, passenger charter flight
Persons on board	Crew: 2 (PIC and Co-pilot) Passengers: 5
Injuries	Crew: None Passengers: None
Damage	Damage to left and right propeller assemblies, nose structure and left and right nose landing gear door.

Aircraft Details

Airframe	
Manufacturer	Hawker Beechcraft Corporation
Model	B200C King Air
Registration	P2-JAU
Serial number	BL-39
Year of manufacture	1981
Total time since new	24019.54
Landing	23,214
Engine	
Engine manufacturer	Pratt and Whitney, Canada
Engine Type	PT6A-42
Engine Number 1 (LH)	
Serial number	PCE-93014
Total time since new	10284.15
Engine Cycles	9012
Total since overhaul	3625.15
Cycles since overhaul	2975
Engine Number 2 (RH)	
Serial number	PCE-PJ0960
Total time since new	7348.11
Engine Cycles	6078
Time since overhaul	3662.26
Cycles since overhaul	3104
Propeller	
Manufacturer	Hartzell Propeller Inc
Model	HC-D4N-3A
Propeller 1	
Serial Number	FY668
Total Time since new	13446.58
Time since Overhaul	2246.38
Propeller 2	
Serial Number	FY3107
Total time since new	7043.24
Time since Overhaul	1201.54