



**PRELIMINARY REPORT**

**AIC 22-1005**

**Pacific Helicopters**

**P2-PHA**

**Airbus Helicopters MBB-BK117 D-2**

**Fenestron sustained substantial damage during landing**

**Tari Hospital, Hela Province**

**Papua New Guinea**

**1 December 2022**



## 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 3 December 2022 at 09:20am local time, the AIC was notified by Pacific Helicopters via email of an event that occurred on 1 December 2022, involving an Airbus Helicopters MBB-BK117 D-2 helicopter, registered P2-PHA and operated by Pacific Helicopters at Tari Hospital, Hela Province. The AIC immediately gathered information regarding the occurrence and commenced the 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](http://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.



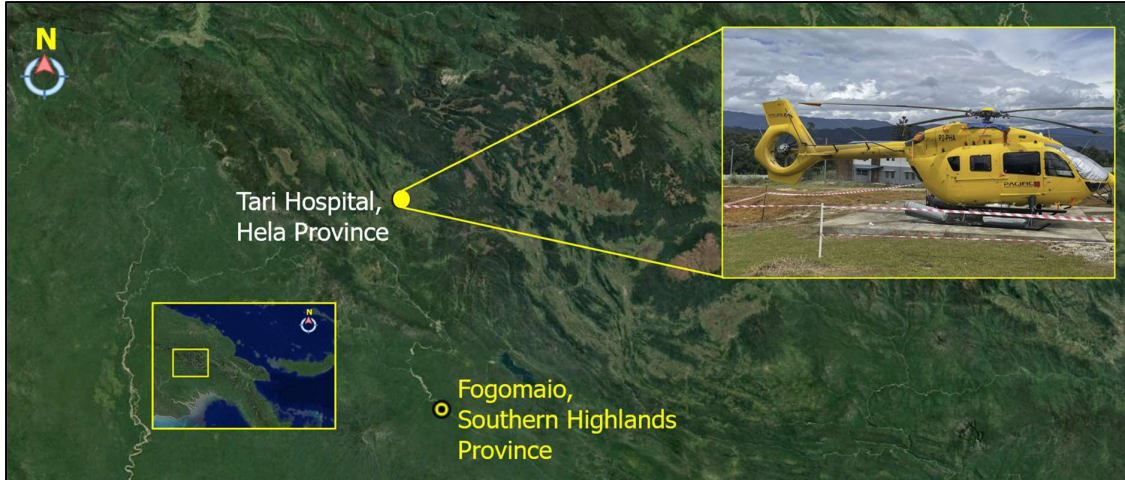
Captain Aria Bouroua MBE

Acting Chief Commissioner

31 December 2022

## Occurrence Details

On 1 December 2022, at about 15:17 local time (05:17 UTC<sup>1</sup>) an Airbus Helicopters MBB-BK117 D-2, registered P2-PHA, owned by Javelin Aviation Ltd and operated by Pacific Helicopters was conducting a VFR<sup>2</sup> medical evacuation (Medivac) flight from Fogomaio Airstrip, Southern Highlands Province to Tari Hospital, Hela Province, when during landing, a foreign object debris (FOD) was ingested by the helicopter's fenestron and caused substantial damage.

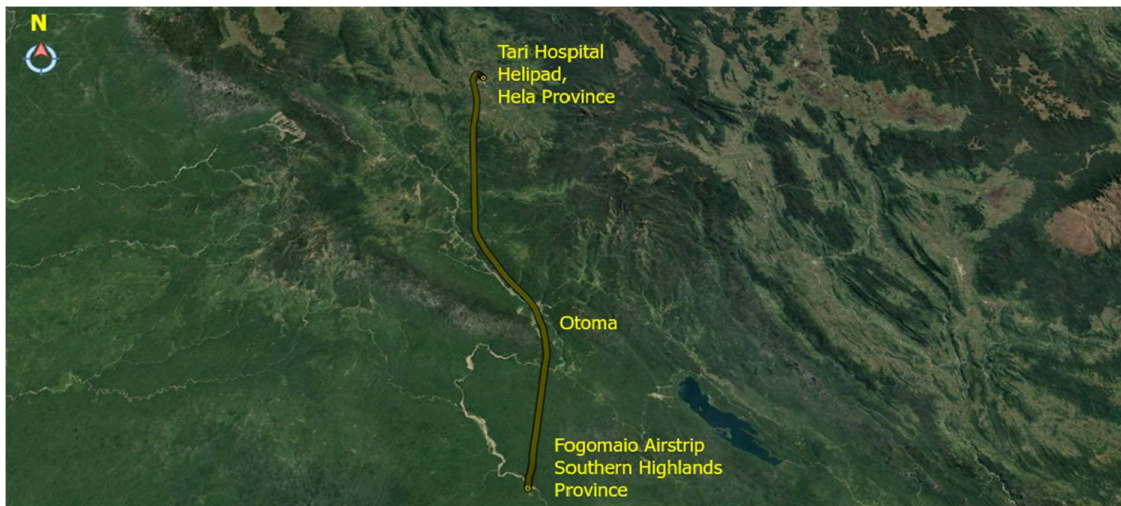


**Figure 1: Overview of the occurrence**

There were two pilots, a loadmaster and four other persons<sup>3</sup> on board the helicopter. None of the occupants were injured.

The designated pilot in command (PIC) for the day was the pilot flying and occupied the right-hand command seat. The copilot (CP) was the pilot monitoring and was seated on the left-hand seat.

According to the recorded data, the helicopter departed at 14:52 and tracked via Otoma for Tari.



**Figure 2: P2-PHA occurrence flight path**

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

<sup>2</sup> Visual Flight Rules: Those rules as prescribed by national authority for visual flight, with corresponding relaxed requirements for flight instruments (Source: The Cambridge Aerospace Dictionary)

<sup>3</sup> One of the passengers was the patient

The recorded data showed that at about 15:14, the helicopter arrived in the Tari Circuit at 600 ft AGL<sup>4</sup> joining the circuit on a wide right base. The helicopter then proceeded with a normal approach to land at Tari Hospital's helipad, 0.23 NM southeast of Tari Airport.

According to the PIC, he informed the CP of his intention to execute a CAT A VTOL<sup>5</sup> approach to the helipad and commit to the landing and nominated 150 ft AGL as their decision point.

The PIC proceeded to execute a normal VTOL approach and landing with a 150° heading with a headwind of 10-15 knots.

According to the PIC, approximately 10-15 feet above the helipad they heard an unusual loud noise from the rear of the helicopter and followed immediately by strong airframe vibrations. The PIC stated that he continued flying the VTOL profile to the ground and was able to land before any yaw motion developed.



**Figure 3: Tari Circuit Area**

On landing, the CP secured the controls while the PIC exited the aircraft to assess the tail. The PIC confirmed that there was significant damage to the Fenestron, the PIC subsequently signalled the CP to shut down the helicopter.

The CP shut down the helicopter and the passengers exited the aircraft.

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<sup>4</sup> Above Ground Level. All recorded altitude data obtained from the recorded data are referenced to the Tari Hospital helipad elevation of 5,490 ft. This elevation is the same as the threshold elevation for Tari Airport.

<sup>5</sup> Category A Vertical Takeoff Landing

## Damage

The helicopter sustained significant damage to its Fenestron.



Figure 4: Fenestron substantially damage

## AIC comment

The investigation is continuing and will include but not limited to flight operations and organizational aspects, to the appropriate extent.

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 Dec 2022, 15:17 (05:17 UTC)		
Occurrence category	Accident		
Primary occurrence type	FOD entered the fenestron and caused substantial damage		
Location	Tari Hospital helipad, Hela Province		
	Latitude: S 5°50'45.35"	Longitude: E 142°56'58.56"	
Elevation	5,490 ft		

## Type of Operation, Injury, and damage details

Type of Operation	Medivac		
Persons on board	2 pilots (PIC and CP)	1 loadmaster	4 passengers
Injuries	Nil	Nil	Nil
Damage	Substantial damage		

## Crew Details

	Pilot in Command	Copilot	
Gender	Male	Male	
Age	43	70	
Nationality	New Zealand	New Zealand	
Licence type	ATPL (H)	ATPL (H)	
Total hours	6,556.0	16,771.7	
Total hours in Command	6,089.2	11,453.6	
Total hours on type	451.9	652.0	

## Aircraft Details

Airframe										
Aircraft manufacturer	Airbus Helicopters Deutschland GmbH									
Aircraft Model	MBB BK117 D-2									
Registration	P2-PHA									
Serial number	20042									
Year of manufacture	2015									
TTSN	3401.28									
CSN	9030									
Engine										
Engine manufacturer	Safran Helicopter Engines									
Engine Model	Arriel 2E									
Engine Number	Engine 1				Engine 2					
Serial number	60319				60045					
TTSN	1,765.42				3,230.68					
TSO	0.00				0.00					
CSN	4,636.00				2177.00					
Main Rotor Blades (MRB)										
Manufacturer	Airbus Helicopters Deutschland GmbH									
Model	D621M1002104									
S/N	4279	4449	4582	4233						
TTSN	1959.32	1596.55	1836.72	2425.52						
Tail Rotor Blades (TRB)										
Manufacturer	Airbus Helicopters Deutschland GmbH									
Model	D641M1001103									
S/N	1729	2492	2475	2757	2756	2783	2787	2777	2771	2809
TTSN	3112.6	2613.3	2613.3	2223	2223	2223	2223	2223	2223	2223