



PRELIMINARY REPORT

AIC 22-1001

P2-BWE

PAC 750XL

Landing Gear Collapse during Landing Roll

Tekin Airstrip, Sandaun Province

Papua New Guinea

18 January 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*.

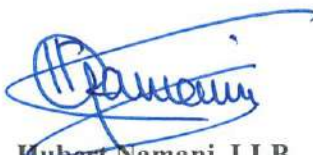
The object of a safety investigation is to identify and reduce safety-related risk. AIC investigations determine and communicate the safety factors related to the transport safety matter being investigated.

On 18 January 2022 at 11:20 local time (01:20 UTC), the AIC was notified by NiuSky Pacific Limited via email, of an accident involving a PAC 750XL aircraft, registered P2-BWE, owned and operated by Niugini Aviation Services Limited at Tekin Airstrip, Sandaun Province. 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 its official release date. It is developed by the Commission in accordance with Para 7.1 of *Annex 13*. The report is also published on the AIC website: <https://aic.gov.pg/investigation>.

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 *Annex 13*, and thereby promote aviation safety. (Reference: *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 February 2022

PAC 750XL landing gear collapse and runway excursion at Tekin Airstrip

Occurrence Details

On 18 January 2022, at 09:26 local (23:26 UTC¹), a PAC 750XL aircraft, registered P2-BWE, owned and operated by Niugini Aviation Services, was conducting a single pilot VFR² charter flight from Kiunga Airport, Western Province to Tekin Airstrip, Sandaun Province, when during the landing roll at Tekin, the aircraft sustained a landing gear collapse and subsequently ran off the strip.

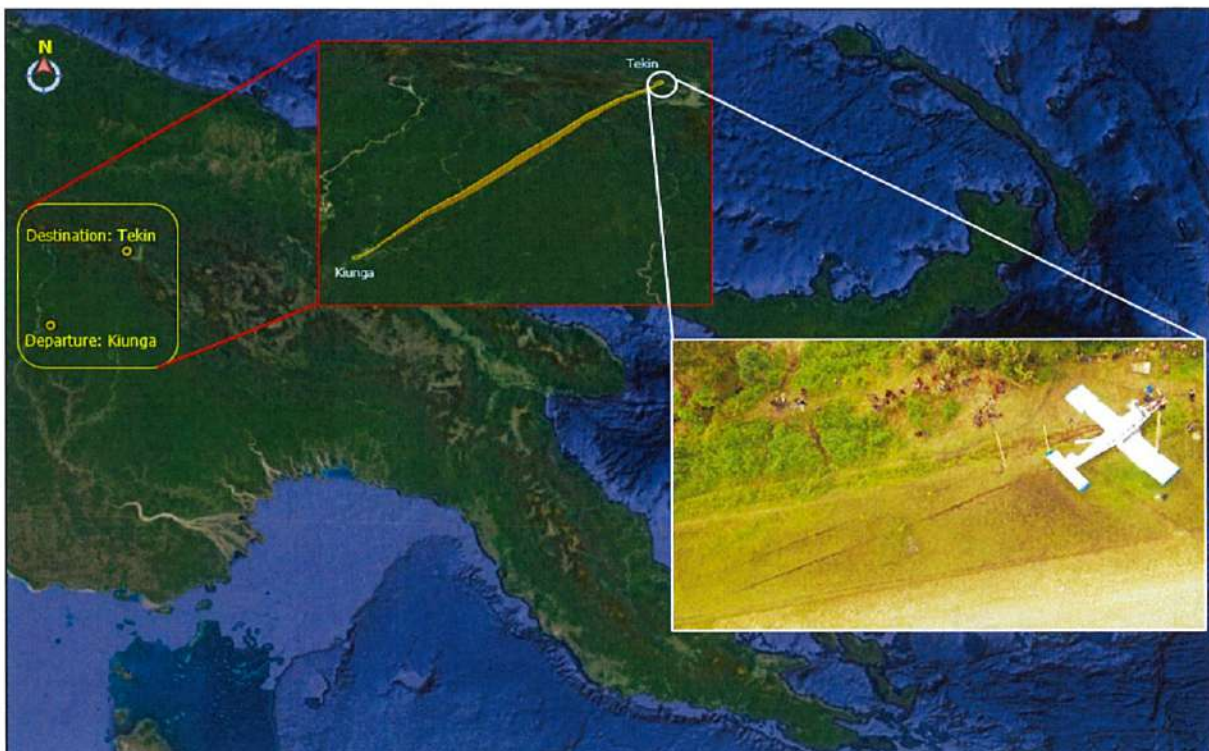


Figure 1: Overview of the accident flight path and the site

There were 8 persons on board the aircraft: 1 pilot and 7 passengers. No injuries were reported.

During the interview, the pilot stated that they climbed to 11,700 ft AMSL³ and tracked to Tekin. The pilot also stated that there was no significant weather along the route and in the Tekin area.

The Spidertracks⁴ recorded data showed that the aircraft arrived in the Tekin circuit area at about 09:18. Air Traffic Control (ATC) stated that the pilot called ATC and confirmed that he had arrived in the circuit and would call again on the ground. The aircraft tracked north-east over the airstrip at about 2,700 ft AGL⁵. The pilot stated that while positioned overhead, he conducted an aerial inspection and from his observation the airstrip appeared suitable for landing. He continued 3 nm north-east of the airstrip before turning left base for the approach.

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) is UTC + 10 hours.

² 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)

³ Above Mean Sea Level

⁴ Tracking system that transmits a combination of parameters (such as location, time, altitude, speed, rate of climb, heading and distance) back to the website and mobile application for real-time viewing by end users.

⁵ Above Ground level (AGL). All altitude data obtained from the Spidertracks recorded data are referenced to the Tekin Airstrip threshold elevation of 5,632 ft.

The pilot established the aircraft on the approach profile about 1 nm from the airstrip runway 18 threshold at a height of about 500 ft AGL.

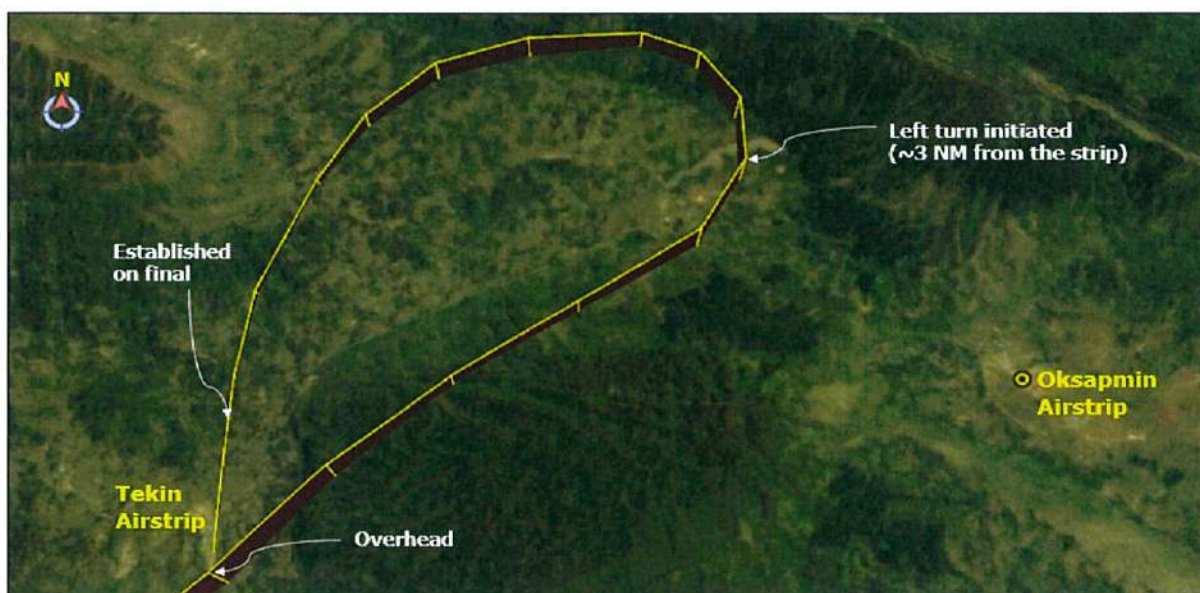


Figure 2: Circuit area at Tekin

The pilot stated that he established the aircraft on final approach with an airspeed of 120 kts. He subsequently configured the aircraft and reduced speed for landing; propeller pitch set to full fine, power set to maintain nominated approach speed and full flap. He stated that he maintained an airspeed between 85 and 90 kts on approach. As he flared the aircraft to land, airspeed was between 75 to 80 kts. The touchdown speed as he recalled was 75 kts.

According to the pilot, following touchdown, the left main landing gear assembly collapsed. The left wing subsequently dropped and impacted the ground causing the flap to dislodge. The aircraft immediately began veering left, towards the eastern edge (boundary) of the airstrip. The pilot stated that he applied full right rudder to veer the aircraft back to the right, but the aircraft continued veering left towards the strip edge. The aircraft rolled past the strip boundary as the nose-wheel and right main landing gear bogged into the strip surface. The aircraft subsequently impacted a drainage ditch adjacent to the strip where it came to rest.

The PIC reported that he immediately shut down the engine and evacuated the passengers from the aircraft.

ATC activated a distress phase upon receipt of a Cospas Sarsat⁶ message. They cancelled the distress at 10:20 when they confirmed that the aircraft was on the ground at Tekin and that all persons on board were safe.

Damage

During the on-site investigation, the investigators identified significant damage to the left main landing gear assembly, nose landing gear assembly, left wing assembly and the propeller blades (see Figure 3).

⁶ Cospas Sarsat – A satellite system designed to provide distress alerts and location data signals at 406 MHz to aid search and rescue operations.



Figure 3: Overview of the damage sustained during impact

AIC comment

The investigation is continuing, and will include but not limited to flight operations, aircraft systems, performance, airworthiness and serviceability, airstrip conditions, weather and organisational aspects, to the appropriate extent.

NOTE: This investigation is being conducted separately from the investigation (AIC 22-1002) of an accident that occurred on 26 January 2022. As both accidents occurred within 8 days and involved the same Operator, airstrip, and aircraft type, reference and information related to one investigation, where appropriate and relevant, may be used in the other for the purpose of highlighting safety related commonalities.

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

Safety Actions

The Operator announced on 2 February 2022 that they had suspended all their operations pending a full and detailed investigation into all parts of the organisation. The announcement was made following an accident to another one of the Operator's PAC 750XL aircraft at Tekin on 26 January 2022.

Safety Recommendations

At the time of release of this Preliminary report, no safety recommendation, solely related to investigation AIC 22-1001, has been issued.

However, following the accident involving P2-BWC (Investigation reference AIC 22-1002) at Tekin on 26 January 2022, an urgent safety recommendation (AIC 22-R01/22-1002) was issued to CASA PNG on 26 January 2022.

The recommendation was formally released today in conjunction with the release of the accident site by the AIC. Due to the fact that the safety risks became apparent as a result of an accident recurrence on 26 January, the recommendation shall primarily reference the second occurrence, considering the accident discussed in this report as evidence.

General Details

Date and time	18 January 2022, 23:26 UTC	
Occurrence category	Accident	
Primary occurrence type	Runway Excursion	
Location	Tekin Airstrip, Sandaun Province	
	Latitude: 5°14'41.64"S	Longitude: 142° 9'52.56"E
Elevation	5,632 ft (at threshold)	
Runway Direction	18/36	
Length	1,742 ft (531m)	
Width	79 ft (24 m)	
Slope	9.6% North	

Type of Operation, Injury and damage details

Type of Operation	VFR, Charter flight	
Persons on board	Pilot: 1	Passengers: 7
Injuries	Pilot: Nil	Passengers: Nil
Damage	LH - MLG, NLG, Left Wing Assembly and propeller blades	

Pilot details

Gender	Male
Age	51
Nationality	Papua New Guinean
Licence type	PNG ATPL (A)
Total hours	9,246.4
Total hours in Command	1,600
Total hours on type	417.5

Aircraft details

Aircraft manufacturer	Pacific Aerospace Corporation
Aircraft Model	750XL
Registration	P2-BWE
Serial number	75X.0161
Year of manufacture	2009
Total time since new	7,549.4
Total cycles since new	11,758

Engine details

Engine manufacturer	Pratt and Whitney Canada
Engine Model	PT6A-34
Serial number	PCE-RB0364
Total time since new	9,096.6
Total time since overhaul	3,851.1

Propeller details

Manufacturer	Hartzell Propeller Inc
Model	Hartzell
Serial Number	BUA25600
Total time since overhaul	1,887.1