



PRELIMINARY REPORT

AIC 16-1002

**PAPUA NEW GUINEA
ACCIDENT INVESTIGATION COMMISSION
AIRCRAFT ACCIDENT REPORT**

Sunbird Aviation Limited

P2-SBC

Britten Norman Islander BN-2T

Kiunga Airport, Western Province

PAPUA NEW GUINEA

13 April 2016

The Papua New Guinea Accident Investigation Commission (AIC) was informed of the accident on the afternoon of 13 April 2016. AIC investigators deployed to the accident site early in the morning of 14 April 2016.

This Preliminary Report, made publicly available on 11 May 2016, was produced by the AIC, PO Box 1709, Boroko NCD, Papua New Guinea.

The report is based upon the investigation carried out to date, by the AIC, in accordance with Annex 13 to the Convention on International Civil Aviation, the Papua New Guinea (PNG) Act, and Civil Aviation Rules. It contains only basic factual and circumstantial information on the accident and does not contain analysis of that information.

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11 May 2016

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1 FACTUAL INFORMATION

1.1 HISTORY OF THE FLIGHT

On the afternoon of 13 April 2016, a turbine Britten Norman Islander (BN-2T) aircraft, registered P2-SBC (SBC) and operated by Sunbird Aviation Ltd, departed Tekin, West Sepik Province for Kiunga, Western Province (Figure 1). The flight was a charter under the visual flight rules¹ (VFR) and on board were the pilot-in-command (PIC) and 11 passengers (eight adults and three persons marked as infants on the manifest). In addition to the passengers and their baggage, the aircraft was carrying a significant quantity of vegetables. The aircraft departed Tekin at 1356² and arrived in the circuit area at Kiunga at 1430, when the pilot cancelled SARWATCH³. The weather at Kiunga was good, and the pilot flew a left-hand circuit to land on runway 07.

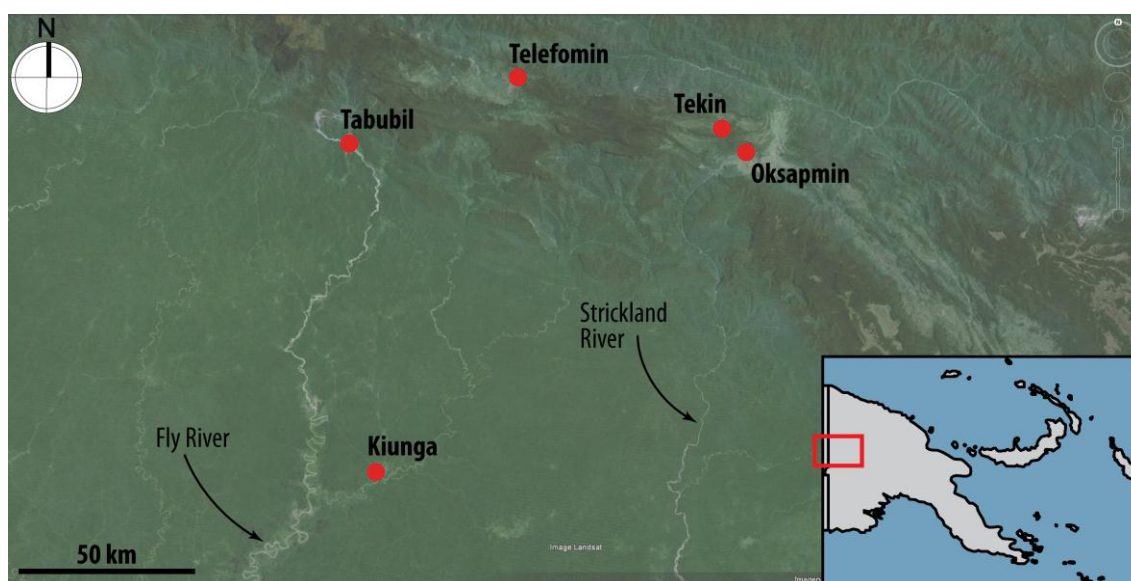


Figure 1: Area of the flight between Tekin and Kiunga

Several witnesses reported that during its final approach the aircraft suddenly pitched up, almost to the vertical, after which the right wing dropped and the aircraft fell to the ground. It impacted the terrain vertically with almost no forward motion, about 1,200 metres west of the threshold of runway 07 (Figure 2), and was destroyed.

Personnel on the airport who witnessed the accident raised the alarm immediately and help arrived at the accident site after approximately 15 minutes. Three adults were found to have survived and were airlifted to Kiunga Hospital, where they later died. The other nine occupants did not survive the impact.

1 Visual flight rules (VFR) are a set of regulations which allow a pilot to only operate an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going.

2 The 24-hour clock is used in this report to describe the local time of day, Local Mean Time (LMT), as particular events occurred. Local Mean Time was Coordinated Universal Time (UTC) + 10 hours.

3 SARWATCH stands for Search and Rescue Watch.



Figure 2: Accident site and wreckage looking in an easterly direction (taken 90 minutes after the accident)

1.2 INJURIES TO PERSONS

Table 1: Injuries to persons

Injuries	Flight crew	Passengers	Total in Aircraft	Others
Fatal	1	11	12	-
Serious	-	-	-	-
Minor	-	-	-	Not applicable
Nil Injuries	-	-	-	Not applicable
TOTAL	1	11	12	-

The pilot-in-command was a dual citizen of Australia and France. The passengers were all Papua New Guinea citizens.

1.3 DAMAGE TO AIRCRAFT

The aircraft was destroyed in the accident.

1.4 OTHER DAMAGE

The wreckage was confined to a small area following the near-vertical impact. It was situated in mixed grassland and low swamp forest, and there was no damage to the surrounding environment.

1.5 PERSONNEL INFORMATION

1.5.1 Pilot-in-command

Age	31 years
Gender	male
Type of licence	PNG Commercial Pilot Licence (Aeroplane) No. P20304
Valid to	non-terminating, valid with medical certificate
Rating	C208, PAC750XL, BN2T
Total flying time	4,705 hours
Total on this type	254.6 hours
Total last 90 days	90.5 hours
Total on type last 90 days	90.5 hours
Total last 7 days	9.6 hours
Total on type last 7 days	9.6 hours
Total last 24 hours	2.5 hours

Total on the type last 24 hours	2.5 hours
Last recurrent training	15 January 2016
Last proficiency check	18 January 2016
Last line check	18 January 2016
Route recency	12 April 2016
Aerodrome recency	12 April 2016
Medical class	1 st Class
Valid to	7 July 2016
Medical limitation	nil

1.6 AIRCRAFT INFORMATION

1.6.1 Aircraft data

Aircraft manufacturer	Britten Norman
Model	BN-2T
Serial number	3010
Date of manufacture	December 1983
Nationality and registration mark	Papua New Guinea, P2-SBC
Name of the owner	Catholic Diocese of Vanimo
Name of the operator	Sunbird Aviation Ltd
Certificate of Airworthiness	No.259, 8 August 2012
Valid to	non-terminating
Certificate of Registration	No.259, 6 August 2012
Valid to	non-terminating

1.6.2 Engine data

Engine Type	Turbopropeller
Manufacturer	Rolls Royce (Alison)
Type	RR 250-B17C
<i>Left engine</i>	
Serial Number	CAE-880424
<i>Right engine</i>	
Serial Number	CAE 880464

1.6.3 Propeller data

Propeller Type	Variable pitch
Manufacturer	Hartzell
Type	HC-C3YF-5F / FC8475FK-6
<i>Left propeller</i>	
Serial Number	FR97
<i>Right propeller</i>	
Serial Number	FR36

1.6.4 Weight and balance data

The manifest for the accident flight (No. 004084) was recovered from the aircraft wreckage. It contains several crossings-out and evidence of reworking of the arithmetic. The AIC is studying the manifest to determine the actual weight and balance of the aircraft on the accident flight.

The operator's agent at Tekin reported that when the aircraft was loaded before departure, no passenger was seated in the right hand seat in the cockpit.

1.6.5 Fuel information

After the day's flying on 12 April 2016, the pilot-in-command requested the refueller at Kiunga to fill both main to their maximum capacity, and the aircraft was refuelled with 256 litres of Jet-A1.

1.7 METEOROLOGICAL INFORMATION

Witnesses reported that the weather at Kiunga was fine at the time of the accident (see Figure 2, taken 90 minutes after the accident).

1.8 AIDS TO NAVIGATION

At Kiunga there was distance measuring equipment⁴ (DME). The DME was unserviceable at the time of the accident.

1.9 COMMUNICATIONS

The pilot cancelled SARWATCH on arrival in the circuit area at Kiunga at 1430.

⁴ Distance Measuring Equipment (DME) is a ground-based transponder station. A signal from an aircraft to the ground station is used to calculate its distance from the ground station.

1.10 AERODROME INFORMATION

Aerodrome Code	AYKI
Airport Name	Kiunga Airport
Coordinates	06° 07.45 S, 141° 17.15 E
Elevation	86 feet
Runway Length	1,125 meters
Orientation	07 / 25

1.11 FLIGHT RECORDERS

The aircraft was not fitted with a flight data recorder or cockpit voice recorder. Neither type of recorder was required by PNG aviation regulations.

1.12 WRECKAGE AND IMPACT INFORMATION

1.12.1 General description of the wreckage

The aircraft was destroyed in the accident (Figure 3).



Figure 3: Wreckage of SBC

The wing assembly had detached from the fuselage and the fuselage had broken open behind the cockpit. The cockpit was destroyed with the left side being crushed. The right aileron came to rest a short distance from the main wreckage.

The left hand propeller (Figures 4 and 6) was detached from the engine due to impact forces

which broke the propeller shaft; it was not feathered. The right hand propeller (Figures 5 and 7) was still attached to the engine and was in the feathered position.



Figure 4: Left hand propeller at accident site



Figure 5: Right hand propeller (feathered) at accident site; note one blade buried in mud

1.12.2 Impact sequence and distribution of the wreckage

The aircraft impacted the ground almost vertically and there was consequently no wreckage trail. Bushes approximately 4 to 5 metres in front of the aircraft's nose showed evidence of disturbance during the impact sequence (Figure 3).

1.13 MEDICAL AND PATHOLOGICAL INFORMATION

A post mortem examination of the pilot-in-command was conducted in Port Moresby on 22 April 2016.

1.14 FIRE

There was no evidence of any fire either before or after the impact.

1.15 ADDITIONAL INFORMATION

From its position 1,200 metres west of the threshold of runway 07, the wreckage of SBC was airlifted by helicopter to a position at Kiunga Airport on 22 April 2016.

The propellers are shown after their removal from the accident site in Figures 6 and 7.



Figure 6: Left hand propeller after removal from accident site



Figure 7: Right hand propeller (feathered) after removal from accident site

The flaps were in the fully-extended position (see Figure 3).

The elevator trim tab was in the full nose-down position. The elevator trim indicator in the cockpit had been crushed in place; it indicated full nose-down (Figure 8).



Figure 8: Elevator trim indicator (in yellow box)

The AIC found the power levers and condition levers were positioned in the centre console as shown in Figure 9.



Figure 9: Power levers and condition levers

Both cockpit fuel selectors were found in the positions shown in Figure 10.



Figure 10: Fuel selectors

The aircraft was fitted with an Ameri-King AK-451-(12) series emergency locator transmitter (ELT) part number AK-451-(AF)(AP)(S), serial number 6503. The ELT (Figure 11) did not activate on impact and no emergency signal was detected after the accident. The ELT bore a label stating “AmeriKing / Replace by Date / Mar 2016”.

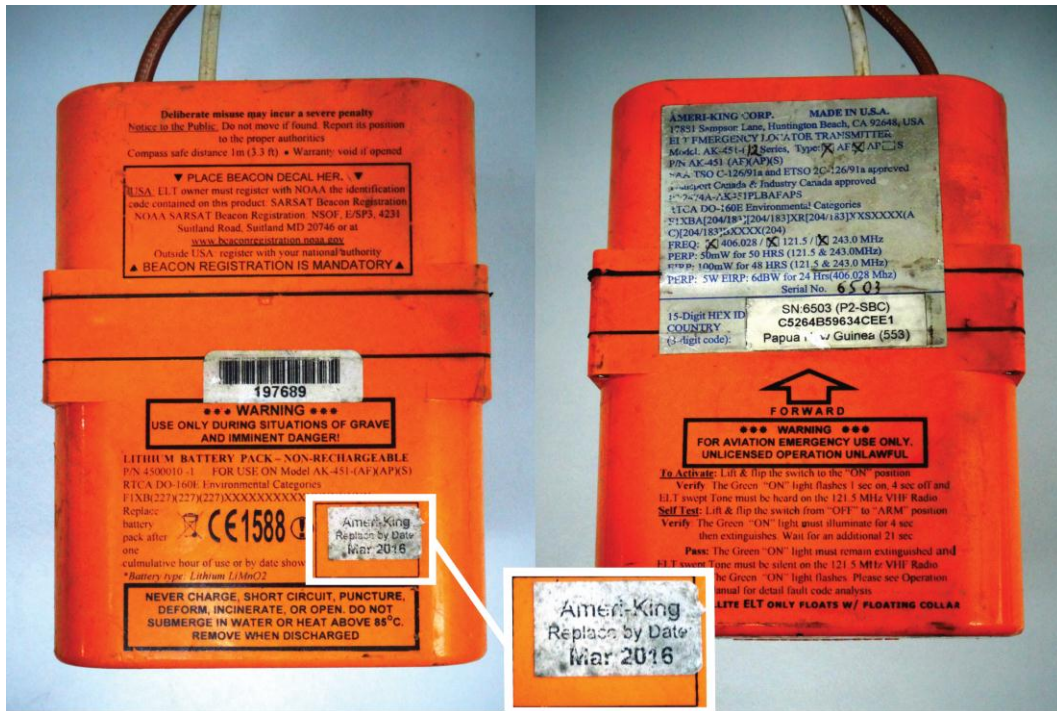


Figure 11: Emergency locator transmitter recovered from the wreckage of SBC

1.15.1 Further investigation

The investigation is continuing and will include further examination and analysis of evidence concerning the aircraft, engines, aircraft loading and weight-and-balance, fuel and fuel system, aircraft maintenance, aircraft operator, pilot training, company operating procedures, pilot-in-command, and any evidence from similar accidents involving BN-2 and BN-2T aircraft.