



**Preliminary Report on serious incident involving Cessna 172 aircraft operated by Skypower Express Airways Nigeria Limited with Nationality and Registration marks 5N-APE which occurred at Bini village, Bida Local Government Area Niger State, on 19<sup>th</sup> November, 2019.**

<b>Aircraft accident report number:</b>	SEA/2019/11/19/D
<b>Registered owner:</b>	Private Flyers International Limited
<b>Operator:</b>	Skypower Express Airways Nigeria Limited
<b>Manufacturer:</b>	Cessna Aircraft Company, USA
<b>Aircraft type and model:</b>	Cessna 172
<b>Year of manufacture:</b>	1971
<b>Serial number:</b>	59912
<b>Nationality and registration marks:</b>	5N-APE
<b>Location:</b>	Bini village, Bida Local Government, Niger state, coordinates; 7°33'2"N 6°0'25"E, elevation of 420 ft
<b>Date and time:</b>	19 <sup>th</sup> November, 2019 at about 12:10 h

*(All times in this report are local time (UTC +1 h) unless otherwise stated)*



## **INTRODUCTION**

Accident Investigation Bureau (AIB) was notified of the serious incident by the operator on 5<sup>th</sup> December, 2019. Investigators were subsequently deployed to the incident site and commenced post incident assessments, under the provisions of Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2019 and ICAO Annex 13.

The purpose of this preliminary report is to provide details of the initial facts, discussions and findings surrounding the occurrence; it includes information gathered from the witness statements and a post occurrence inspection of the wreckage at the scene. The investigation is ongoing.

## **1.0 FACTUAL INFORMATION**

### **1.1 History of the flight**

On 19<sup>th</sup> November, 2019, at about 08:45 h, a Cessna 172 aircraft with nationality and registration marks 5N-APE operated by Sky power Express Airways (SEA) Nigeria Limited, departed Nnamdi Azikiwe International Airport (DNAA) for Bida; Niger state on a Visual Flight Rules (VFR) flight plan with two (2) persons on board (the Pilot and an equipment operator) and fuel endurance of six hours. The intended flight was meant for a Georadiometric Aerial Survey around Bida area.

After departure, the aircraft climbed out normally to an altitude of 6500 ft above mean sea level in coordination with Abuja Control (ACC). During the climb, after take-off and climb check lists were accomplished respectively, while engine parameters were monitored all in the green.

According to the pilot, at about 08:15 h, ACC transferred 5N-APE to Minna Tower. Thereafter, 5N-APE established contact with Minna Tower and subsequently proceeded to Bida area for the Georadiometric Aerial Survey.

At about 09:40 h, the aircraft descended to about 400 ft and commenced the Georadiometric Aerial Survey. The pilot stated that the operation was normal until about 10:54 h, when a drop in engine revolution per minute (r.p.m) accompanied by change in engine sound were noticed. The pilot added that, about three seconds later engine oil splashed on the windshield. At that time, he also observed oil pressure indication was decreasing while oil temperature indication was rising. According to him, he immediately reduced the engine r.p.m. setting and attempted to climb to higher altitude for diversion to Bida airstrip.

The pilot added that, as he observed the engine r.p.m. continued to drop, he shuts down the engine and executed a forced landing. In the process of touching down, the aircraft hit and felled a tree before it impacts the ground on all its three wheels, at the same time. As a result of the impact, the tail section of the aircraft was substantially damaged.

The pilot also stated that "I instantly realized that I do not have luxury of altitude which is equal time. So, based on my training and recall checklist, the best practice in Aviation during an emergency is first to AVIATE, NAVIGATE and then COMMUNICATE if time permitting".



The two occupants disembarked the aircraft unassisted and uninjured.

The incident occurred at about 12:10 h, in day time; visual meteorological conditions prevailed.

## 1.2 Injuries to persons

<b>Injuries</b>	<b>Crew</b>	<b>Passengers</b>	<b>Total in the aircraft</b>
<b>Fatal</b>	Nil	Nil	Nil
<b>Serious</b>	Nil	Nil	Nil
<b>Minor</b>	Nil	Nil	Nil
<b>None</b>	1	1	2
<b>Total</b>	1	1	2

## 1.3 Damage to aircraft

The aircraft was substantially damaged.

## 1.4 Other damage

Nil

## 1.5 Personnel information

### 1.5.1 Pilot (Pilot flying)

Nationality:	Nigerian
Age:	51 years
Licence type:	Airline Transport Pilot Licence (A)
Licence validity:	23 <sup>rd</sup> December, 2019
Simulator validity:	14 <sup>th</sup> November, 2018
Proficiency check:	16 <sup>th</sup> July, 2019
Aircraft ratings:	Beach Baron B-58, Tampico club (TB-9), Socata TBM 850
Medical Certificate validity:	23 <sup>rd</sup> June, 2021
Total flying time:	4370 h
Total on type:	750 h



Last 90 days: 30 h

Last 28 days: 4 h

## **1.6 Aircraft information**

Type: Cessna 172

Manufacturer: Cessna Aircraft Company, USA

Date of manufacture: 1971

Serial number: 59912

Registered owner: Private Flyers International Limited

Operator: Skypower Express Airways Nigeria Limited

Nationality and registration marks: 5N-APE

Certificate of Airworthiness: Valid till 20<sup>th</sup> October, 2020

Certificate of Insurance: Valid till 17<sup>th</sup> April, 2020

Certificate of Registration: Issued on 24<sup>th</sup> May, 2010

Time since new: 6958:28 h

Cycle since new: 5778

### **1.6.2 Power Plant**

Engine model: Lycoming O-360-AIA

Manufacturer: Textron Lycoming

Serial number: L-34569-36A

Time since overhaul: 526:09 h

Cycle since new: 2015

Type of fuel used: AVGAS

A newly overhaul engine with zero hours was installed on the aircraft on 21<sup>st</sup> January, 2015.



### 1.6.3 Propeller

Model: HC-M2RYR-1BF/F7666A  
Manufacturer: Hartzell,  
Serial Number: EN 1225B  
Number of blades: 2  
Type of propeller: Variable pitch

### 1.7 Meteorological information

**Time: 1100 UTC**

Wind: 04kts  
Visibility: 10km  
Weather: Nil  
Temperature/Dew: 34<sup>0</sup>C/23<sup>0</sup>C

**Time: 1200 UTC**

Wind: 03kts  
Visibility: 10km  
Weather: Nil  
Temperature/Dew: 34<sup>0</sup>C/23<sup>0</sup>C

**Time: 1300 UTC**

Wind: 07kts  
Visibility: 10km  
Weather: Nil  
Temperature/Dew: 34<sup>0</sup>C/22<sup>0</sup>C

## **1.8 Aids to Navigation**

Not applicable

## **1.9 Communications**

There was two-way communication between the aircraft and the Air Traffic Control. The aircraft had established two-way communication with the Minna tower and then proceeded for the aerial survey in Bida area.

## **1.10 Aerodrome information**

N/A

## **1.11 Flight Data Recorder**

The aircraft was not equipped with Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR) neither of which was required by the current aviation regulations for this aircraft type.

## **1.12 Wreckage and impact information**

The aircraft hit and felled a dry tree before impacting the ground. The aircraft travelled about 108 m before stopping on the heading of 227° SW.

The post occurrence inspection of the aircraft reveals the following damage.

1. one of the push rods for number two cylinder of the engine was bent
2. there was engine oil spillage all over the aircraft
3. the tail cone was bent and damaged (torn)
4. the left horizontal stabilizer was damaged at the tip
5. the leading edge of the vertical stabilizer was also damaged
6. the elevator was also damaged
7. the windshield was broken











### **1.13 Medical and pathological information**

Toxicology or pathological test was not carried out on the pilot.

### **1.14 Fire**

There was no pre or post impact fire.

### **1.15 Survival aspect**

The accident was survivable as there was livable volume in the cockpit. The seat and the seat restraints system were found intact and they operated as desired. The two occupants exited the wreckage unassisted and uninjured.

## **2.0 Initial Findings**

1. According to the pilot he executed a forced landing of the aircraft after losing engine power.
2. The aircraft had a valid certificate of airworthiness.
3. The aircraft was airworthy when dispatched for the flight.
4. The aircraft experienced loss of power and slight change in the engine sound during the survey.
5. There was engine oil splash on the fuselage and engine cowl.
6. There was two-way communication between the aircraft and the Air Traffic Control.
7. Propeller blades were not damaged.
8. The take-off and climb out phases were normal.
9. The purpose of the flight was a Georadiometric Aerial Survey.
10. The Georadiometric Aerial Survey was conducted at about 400 ft above Mean Sea Level.



## **Further Investigative actions**

1. Spectrometric Oil Analysis
2. Fuel analysis
3. Further engine inspections.