



Preliminary Report on the Serious Incident involving a Hawker 800XP aircraft operated by Aero Tak Limited with nationality and registration marks 5N-JEF which occurred at Nnamdi Azikiwe International Airport, Abuja Nigeria on 10th July, 2023.

Registered owner:	Intercontinental Trade DMCC, UAE
Operator:	Aero Tak Limited
Aircraft type and model:	Hawker 800XP
Manufacturer:	Raytheon Aircraft Company, UK
Year of manufacture:	2002
Nationality and registration marks:	5N-JEF
Serial number:	258566
Location:	Nnamdi Azikiwe International Airport (DNAA), Runway 22 Coordinates: 09°00'25"N, 007°15'47"E.
Date and Time:	10 th July, 2023 at about 22:05 h <i>(All times in this report are local time, equivalent to UTC+1 unless otherwise stated)</i>



INTRODUCTION

Nigerian Safety Investigation Bureau (NSIB) was notified of the incident by the Nigeria Airspace Management Agency (NAMA) on 10th July, 2023. Investigators were dispatched to the incident site the same day and commenced post occurrence assessments under the provisions of Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2019 and ICAO Annex 13.

The investigation is ongoing.



1.0 FACTUAL INFORMATION

1.1 History of the flight

On 10th July, 2023 a Hawker 800XP aircraft with nationality and registration marks 5N-JEF, operated by Aero Tak Limited on a Permit for Non-Commercial Flight (PNCF), was scheduled to operate sectors between Nnamdi Azikiwe International Airport (DNAA) and Gombe Airport (DNGO). The crew reported that they resumed duty at 0630 h on the day of the occurrence.

At 07:10 h, 5N-JEF departed DNAA and arrived DNGO at 08:20h. Subsequent flights were: DNGO-DNAA at 08:25 h - 09:15 h and DNAA-DNGO at 10:20 h - 11:20 h.

At 17:00 h, 5N-JEF departed DNGO and arrived DNAA at 18:00 h. Three more flights were conducted from: DNAA-DNGO 18:10 h-19:10 h, DNGO-DNAA 19:15 h-20:05 h and DNAA-DNGO 20:15 h-21:05 h.

At 21:20 h, 5N-JEF departed DNGO on an Instrument Flight Rules (IFR) flight plan with fuel endurance of three hours on its final leg to Abuja with a total of 12 persons on board inclusive of two flight crew members with the Pilot as Pilot Flying (PF) and the Co-pilot as Pilot Monitoring (PM).

At 21:42 h, 5N-JEF established contact with Abuja Approach Control (APP) and was cleared ILS approach Runway 22. While on descent, the crew requested for high speed below 10000 ft from APP and was granted.

At about 10 nm ABC VOR while established on ILS, with idle thrust and descending to 3200 ft on QNH 1014, the crew expressed concern on the aircraft speed on the final approach and concluded that it was due to tail wind.



At 22:00:37 h about 7 nm, 5N-JEF contacted Abuja Tower and was cleared to land runway 22, wind calm.

At 22:02:04 h the PF called for *Landing Checks* and the PM called out the individual items on the checklist and confirmed 'CHECKS STABLE'. The sound of autopilot disengage was captured on the Cockpit Voice Recorder (CVR), and at about 200 ft to touchdown, the PF called out 'LANDING'.

At 22:03:6 h, 5N-JEF touched down runway 22. On landing, the aircraft deviated to the left of the center line at around link A2 and excused unto the left paved runway shoulder, beyond the runway edge lights. The aircraft re-entered the active runway 186 m from exit point as it veered to the right.

The aircraft came to a stop making a 140° turn to a magnetic heading north with both tyres of the left Main Landing Gear damaged. The passengers disembarked normally without injury.

The Serious Incident occurred at 22:05 h in Instrument Meteorological Condition (IMC).

1.2 Injuries to persons

Injuries	Crew	Passengers	Total in the aircraft	Others
Fatal	Nil	Nil	Nil	Nil
Serious	Nil	Nil	Nil	Nil
Minor	Nil	Nil	Nil	Nil
None	2	10	12	Nil
TOTAL	2	10	12	Nil

1.3 Damage to aircraft

The aircraft was slightly damaged.

1.4 Other damage

Nil

1.5 Personnel information

1.5.1 Pilot

Nationality:	Nigerian
Age:	36
License type:	Airline Transport Pilot License (Aeroplane)
License validity:	Valid till 13 th September, 2027
Aircraft ratings:	HS-125/800XP, EMB-135/145
Medical certificate:	Valid till 5 th December, 2023
Instrument rating:	Valid till 1 st June, 2024
Proficiency check:	Valid till 25 th May, 2024
Total flying time:	3500 h
Total on type:	65:48 h
Total on type (PIC):	65:48 h
Last 90 days:	65:48 h
Last 28 days:	65:48 h
Last 24 hours:	7:30 h



1.5.2 Co-Pilot

Nationality:	Nigerian
Age:	41
License type:	Commercial Pilot License (Aeroplane)
License validity:	Valid till 27 th August, 2025
Aircraft ratings:	HS-125/800XP
Medical certificate:	Valid till 21 st December, 2023
Instrument rating:	Valid till 19 th August, 2023
Proficiency check:	Valid till 19 th August, 2023
Total flying time:	1900 h
Total on type:	1700 h
Last 90 days:	100 h
Last 28 days:	30 h
Last 24 hours:	7:30 h

1.6 Aircraft information



Figure 1: 5N-JEF after the incident

1.6.1 General information

Type:	Hawker 800XP
Manufacturer:	Raytheon Aircraft Company, UK
Year of manufacture:	2002
Serial number:	258566
Certificate of Airworthiness:	Valid till 24 th February, 2024
Certificate of insurance:	Valid till 23 rd November, 2023
Certificate of registration:	Issued 14 th July, 2021
Total airframe time:	4932:43 h



Total Landing Cycles: 3381

1.6.2 Engines

Engine	Number 1	Number 2
Manufacturer	Garett AiResearch, USA	Garett AiResearch, USA
Type/Model	TFE731-5BR-1H	TFE731-5BR-1H
Serial number	P-107332	P-107102
Time Since New	4916:58	7255:13
Cycles Since New	3615	3256

Fuel Used: Jet A1

1.7 Meteorological information

The following are the Meteorological Reports for Nnamdi Azikiwe for the 10th July, 2023 as provided by the Nigerian Meteorological Agency.

DNAA	2100Z	2200Z	2300Z
Wind:	030/02 kt	040/02 kt	070/03 kt
Visibility:	10 km	10 km	10 km
Weather:	Nil	Nil	Nil
Cloud:	NOSIG	NOSIG	NOSIG
Temp/Dew:	26°C/24°C	26°C/24°C	25°C/24°C
QNH:	1015 hPa	1015 hPa	1014 hPa

1.8 Aids to navigation

The status of the navigational aids at Nnamdi Azikiwe International Airport on the day of the occurrence was as follows:

"ABC" VOR/DME	116.3 MHz	- 'Serviceable'
"IAB" ILS/DME	109.3 MHz	- 'Serviceable'
"IAC" ILS/DME	111.9 MHz	- 'Serviceable'
MSSI Wind Indicator		- 'Serviceable'
Aerodrome Beacon		- 'Serviceable'
Radar & FPL Monitor		- 'Serviceable'
ALDIS Lamp & AFL Display		- 'Serviceable'

1.9 Communication

The status of the communication equipment at Nnamdi Azikiwe International Airport on the day of the occurrence was as follows:

VHF 118.6 Mhz Tower Primary Frequency	- 'Serviceable'
VHF 118.9 MHZ Tower Secondary Frequency	- 'Serviceable'
VHF 127.9 MHZ App/Radar Primary Frequency	- 'Serviceable'
VHF 119.8 MHZ App/Radar Secondary Frequency	- 'Serviceable'
VHF 121.9 MHZ Ground Frequency	- 'Serviceable'



VHF 127.05 MHZ ATIS Frequency	- 'Serviceable'
VHF 121.5 MHZ Emergency Frequency	- 'Serviceable'
Frequentis Smartstrip Main & Backup	- 'Serviceable'
Voicecom 1,2, & 3	- 'Serviceable'
Panasonic Table Phone & Techno Mobile	- 'Serviceable'

There was effective communication between 5N-JEF and Air Traffic Controllers at Abuja airport.

1.10 Aerodrome information

The Nnamdi Azikiwe International Airport, Abuja (DNAA) has aerodrome reference points 09°00'25"N, 007°15'47"E and elevation 1123 ft with runway orientation 04/22. The runway has a length of 3610 m and a width of 60 m with asphalt/concrete surface and a blast pad of 65 m at both ends.

1.11 Flight recorders

The aircraft is fitted with Solid-State Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR) with the following particulars:

Recorders	Flight Data Recorder	Cockpit Voice Recorder
Manufacturer	Honeywell, USA	Universal, USA
Model	SSFDR	CVR
Part Number	980-4700-025	1603-02-3
Serial Number	17020	985

The FDR and CVR were retrieved and downloaded at the Transportation Safety Laboratory of Nigerian Safety Investigation Bureau (NSIB), Abuja, Nigeria.



1.12 Wreckage and impact information

On landing runway 22, 5N-JEF deviated to the left of the center line at around link A2 and excused unto the left paved runway shoulder, beyond the runway edge lights, at around 94 m from link A3. It then re-entered the active runway 186 m from exit point as it veered to the right. 5N-JEF came to a stop making a 140° turn to a magnetic heading north.

On-site inspection of the aircraft by investigators revealed the following:

1. Damaged wheel assemblies of the left Main Landing Gear (MLG).
2. Severed hydraulic lines of the left Main Landing Gear (MLG).
3. Worn out number 3 right main wheel tyre.
4. Abrasion on the number 1 nose landing gear tyre.
5. Hydraulic fuel leakage below the left Main Landing Gear (MLG).



Figure 2: Left Main Landing Gear



Figure 3: Tyres from the Right Main Landing Gear



Figure 4: Nose wheel landing gear

1.13 Medical and pathological information

No medical or toxicological tests were conducted.



1.14 Fire

There was no fire.

1.15 Survival aspect

The occurrence was survivable.

1.16 Tests and research

Not Applicable.

1.17 Organizational and management information

1.17.1 Aero Tak Limited

Aero Tak Limited was granted a Permit for Non-Commercial Flight (PNCF) by the Nigeria Civil Aviation Authority, permit number NCAA/ATR66/NCF116, granting it permission to fly non-commercially a Hawker 800XP with Nationality and Registration Number 5N-JEF within and outside Nigeria pursuant to Section 18.2.4.3 of the Nigerian Civil Aviation Regulation 2015 on 15th July, 2021 and to last until 14th July, 2024.



2.0 INITIAL FINDINGS

1. The pilots were certified to conduct the flight.
2. The aircraft has a valid airworthiness certificate.
3. 5N-JEF was operated under the Permit to Fly for Non-Commercial Flight.
4. 5N-JEF operated eight flights between Nnamdi Azikiwe International Airport (DNAA) and Gombe Airport (DNGO) on the day of the occurrence.
5. The crew resumed duty at 0630 h on the day of the occurrence.
6. 5N-JEF departed DNGO on its last and final leg to Abuja with a total of 12 persons on board inclusive of two flight crew members.
7. The Pilot was the Pilot Flying (PF) and the Co-pilot was the Pilot Monitoring (PM).
8. 5N-JEF established contact with Abuja Approach Control (APP) and was cleared ILS approach Runway 22.
9. The crew expressed concern of the aircraft speed on the final approach.
10. On landing Runway 22, the aircraft deviated to the left of the center line at around link A2 and excused unto the left paved runway shoulder.
11. 5N-JEF re-entered the active runway 186 m from exit point as it veered to the right.
12. 5N-JEF came to a stop making a 140° turn to a magnetic heading north with both tyres of the left Main Landing Gear damaged.
13. The crew conducted seven flights before the eventful flight.
14. The crew were on duty for 15 hours 40 minutes on the day of the occurrence.



Further Investigations

1. Flight Data Recorder Analysis.
2. Retrieval of relevant documents from stakeholders