



# PRELIMINARY REPORT

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**Accident Investigation Bureau**

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**Report on the Serious Incident involving BAe 125-800B aircraft with nationality and registration marks 5N-B00 operated by Gyro Aviation Limited which occurred at Port-Harcourt Nigeria on 16th July, 2020.**



5N-BOO

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**Registered owner and operator:** Gyro Air Limited

**Aircraft type and model:** British Aerospace BAe 125-800B

**Manufacturer:** British Aerospace Public Limited Company

**Year of manufacture:** 1990

**Nationality and registration marks:** 5N-BOO

**Serial number:** 258143

**Location:** 20 nm to DNPO

**Date and Time:** 16th July, 2020 at 15:41

*(All times in this report are local equivalent to UTC+1)*



## **INTRODUCTION**

Accident Investigation Bureau (AIB) was notified of the incident by the Nigerian Civil Aviation Authority (NCAA) on 16th July, 2020. Investigators were dispatched to the incident site the following 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 purpose of this preliminary report is to provide details of the initial facts gathered so far including discussions and findings surrounding the occurrence, information gathered from the witness accounts 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 the 16th July, 2020 at 15:41 h, a BAe 125-800B aircraft with nationality and registration marks 5N-BOO, operated by Gyro Air Limited, departed Sultan Abubakar International Airport, Sokoto (DNSO) for Port Harcourt International Airport (DNPO) on an Instrument Flight Rule (IFR) flight plan with 3 crew on a positioning flight. The Pilot was the Pilot Flying (PF) while the Co-pilot was the Pilot Monitoring (PM).

The flight preceded without incident. At 16:41 h, 5N-BOO made contact with Port Harcourt Approach Control (APP) and gave estimates for Port Harcourt VOR (POT) as 17:03 h. Weather report for 16:30 h was passed to the crew as *wind: 260/07 kts, visibility: 10 km, weather: nil, cloud: broken 240 m, QNH: 1012, temperature 25 °C, dew point: 23 °C*.

At 16:55 h, 5N-BOO was cleared for flight level (FL) 70 and was given priority on the landing sequence. 5N-BOO was then cleared to descend below FL 70.

At 17:00 h, 5N-BOO was cleared to descend to 2400 ft and was then cleared for ILS approach runway 21. 5N-BOO reported "established" on the extended runway centre line and proceeded on the approach.

At about 20 NM, No. 1 engine fire warning (aural and visual) came ON. The crew stated that there were no abnormal engine parameter indications (ITT and EGT inclusive).

According to the crew, memory items and then Checklist Procedures as contained in the Hawker 800XP Pro Line 21 were executed (throttle was retarded and fuel was shut as part of the procedure, fire extinguisher bottle were also discharged). The engine fire warning went OFF. Moments later engine fire warning came back ON.

At 17:03 h, 5N-BOO declared Mayday.

The flight crew reported that they then discharged the second fire bottle onto the engine. The engine fire indication went OFF and then came ON again. This indication came ON once more and then OFF. The flight crew then suspected that it was a false warning.

At 17:06 h, 5N-BOO reported its position to ATC as 10 nm and declared intention to land.

5N-BOO landed at 17:11 h on runway 21 without further incident.

The Aircraft Rescue and Fire Fighting Service (ARFFS) was on standby and after landing, the crew requested that the MAYDAY be cancelled by ATC.

The incident occurred in daylight; Visual Meteorological Conditions (VMC) prevailed at the time of occurrence.

## 1.2 Injuries to persons

<b>Injuries</b>	<b>Crew</b>	<b>Passengers</b>	<b>Total in the aircraft</b>	<b>Others</b>
<b>Fatal</b>	Nil	Nil	Nil	Nil
<b>Serious</b>	Nil	Nil	Nil	Nil
<b>Minor</b>	Nil	Nil	Nil	Nil
<b>None</b>	3	Nil	3	Nil
<b>TOTAL</b>	3	Nil	3	Nil

## 1.3 Damage to aircraft

Nil

## 1.4 Other damage

Nil

## 1.5 Personnel information

### 1.5.1 Pilot

Nationality:	Nigerian
Age:	63
License Type:	Airline Transport Pilot License (A)
License Validity:	Valid till 5 <sup>th</sup> June, 2020
Aircraft Ratings:	HS-125/800XP, Dornier-228, Dornier-328, EMB 110
Medical Certificate Validity:	Valid 5th June, 2020
Total Flying Time:	12,073 h
Total on Type:	3,200 h
Total on Type (PIC):	3,200 h
Last 90 days:	75:10 h
Last 28 days:	44:50 h
Last 7 days:	4:50 h
Last 24 hours:	4:50 h



### 1.5.2 Co-Pilot

Nationality:	Nigerian
Age:	34 years
License Type:	Airline Transport Pilot License (A)
License Validity:	Valid 27 <sup>th</sup> June, 2020
Aircraft Ratings:	HS-125/800XP
Medical Certificate:	Valid 27 <sup>th</sup> June, 2020
Total Flying Time:	2615 h
On Type:	2378:25 h
Total on Type (PIC):	476:35 h
Last 90 days:	75:10 h
Last 28 days:	44:50 h
Last 7 days:	4:50 h
Last 24 hours:	4:50 h

## 1.6 Aircraft information

### 1.6.1 General information



**Figure 1:** 5N-BOO parked

Type:	BAe 125-800B
Manufacturer:	British Aerospace PLC
Year of Manufacture:	1990
Serial Number:	258143
Certificate of Airworthiness:	Valid till 29 <sup>th</sup> November, 2020
Certificate of Insurance:	Valid till 27 <sup>th</sup> June 2021



5N-BOO

Certificate of Registration: Issued 21<sup>st</sup> January, 2014

Total Airframe Time: 10052:40 h

Total Landing Cycles: 8875

### 1.6.2 Engines

Engine	Number 1	Number 2
Manufacturer	Garrett AiResearch, USA	Garrett AiResearch, USA
Type/Model	TFE731-5R-1H	TFE731-5R-1H
Serial number	P91464	P91465
Time Since New	10073:06 h	9943:37 h
Cycles Since New	8512	8069

Fuel Used: Jet A1

### 1.7 Meteorological information

**DNPO 1630**

Wind: 260/07 kt

Visibility: 10 km

Weather: Nil

Cloud: broken 240 m

Temp/Dew: 25 °C/23 °C

QNH: 1012 hPa

**1.8 Aids to navigation**

VHF 124.9MHZ (APPROACH)	Serviceable
VHF 119.2MHZ (TWR MAIN)	Serviceable
VHF 118.6MHZ (TWR SEC)	Serviceable
VHF 121.5MHZ (EMERGENCY)	Serviceable
VHF 121.7MHZ (DOMESTIC)	Serviceable
VHF 122.3MHZ (ATIS)	Unserviceable
VHF 113.5MHZ VOR/DME "POT" (FAILED CALIB.)	Serviceable
VHF 110.3MHZ ILS "IPC" (AWAITING CALIB.)	Serviceable
NIMET WX REPORT MONITOR	Serviceable
NAV AIDS STATUS DISPLAY	Unserviceable
APP-TWR DIRECT LINK	Serviceable
APP-TWR INTERCOM LINK	Serviceable
SATCOM/VSAT/GSM PHONES	Serviceable
ATM MANUAL OF OPERATION	Available
AERONAUTICAL SAR MANUAL	Available
ATC DIGITAL CLOCK	Available

## 1.9 Communication

There was two-way communication between the aircraft and air traffic control.

## 1.10 Aerodrome information

Not applicable.

## 1.11 Flight recorders

The aircraft is fitted with Solid-State Flight Data and Cockpit Voice Recorders.

<b>Recorders</b>	<b>Flight Data Recorder</b>	<b>Cockpit Voice Recorder</b>
<b>Manufacturer</b>	Fairchild Aviation Recorders, USA	Honeywell International Inc., USA
<b>Model</b>	F1000	Solid State Memory Cockpit Voice Recorder
<b>Part Number</b>	S603-1000-00	980-6022-011
<b>Serial Number</b>	00370	CVR120-08785

The Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR) were retrieved and downloaded at the Flight Safety Laboratory of Accident Investigation Bureau (AIB), Abuja, Nigeria.



### **1.12 Wreckage and impact information**

Nil

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

No medical test was conducted.

### **1.14 Fire**

There was no fire.

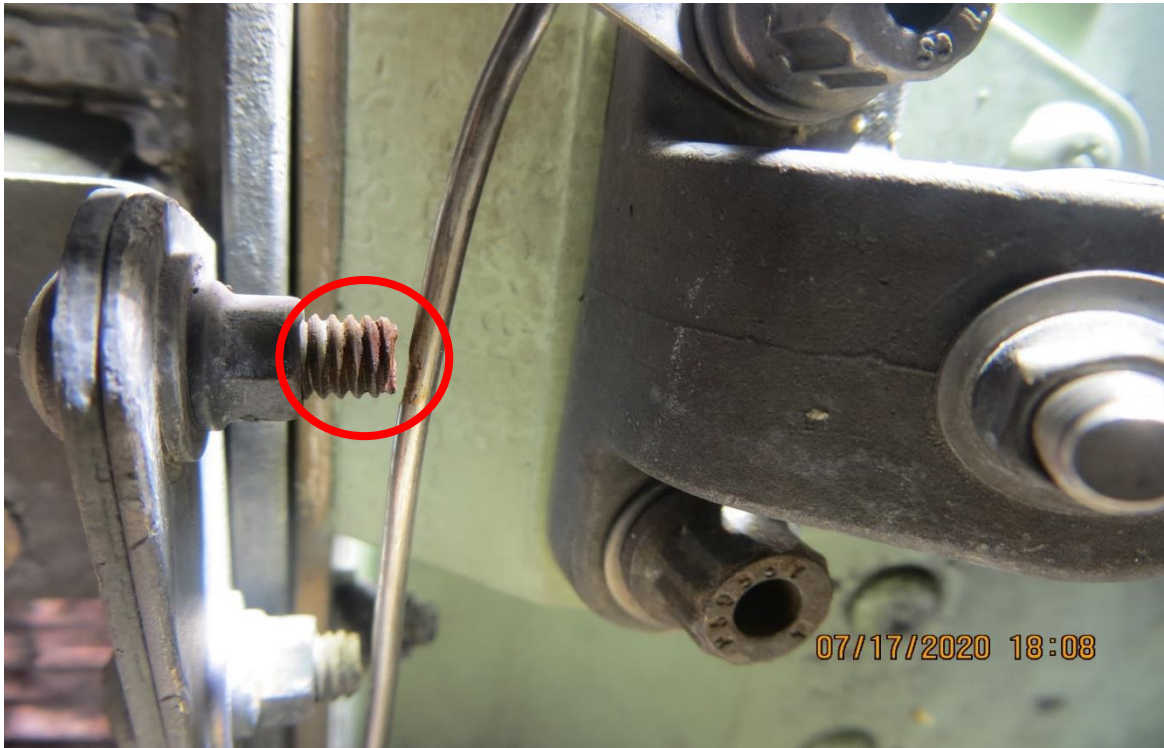
### **1.15 Survival aspect**

Nil.

### **1.16 Test and research**

Post flight inspection of the engine by the crew revealed no fire damage or any sign of fire (smell or otherwise).

Visual examination of the number 1 engine revealed an evidence of intermittent contact between the fire detecting circuits (fire wire) and a part of the engine.



**Figure 2:** Point of contact between the fire detecting circuits (fire wire) and a part of the engine

## 2.0 INITIAL FINDINGS

1. No. 1 engine fire warning (aural and visual) came ON at about 20 NM on approach from POT.
2. There were no abnormal engine parameter indications (ITT and EGT inclusive).
3. Memory items and then Checklist Procedures were executed (throttle was retarded and fuel was shut off as part of the procedure, fire extinguisher bottle was also discharged).
4. 5N-BOO declared Mayday after accomplishing the checklist procedures.
5. The engine fire warning went OFF after the first fire bottle was discharged and the engine fire warning came ON again.
6. The second fire bottle was discharged onto the engine. The engine fire indication went OFF and then came ON again. This indication came ON once more and then OFF.
7. 5N-BOO landed on runway 21 at 17:11 h without further incident.
8. The Aircraft Rescue and Fire Fighting Service (ARFFS) was on standby.
9. After landing, the crew requested that the MAYDAY be cancelled by ATC.
10. APU fire warning was registered on the 11th July, 2020.