

PRELIMINARY REPORT ON SERIOUS INCIDENT INVOLVING DORNIER 328-100 AIRCRAFT OPERATED BY DORNIER AVIATION NIGERIA AIEP (DANA) LIMITED WITH NATIONALITY AND REGISTRATION MARKS 5N-BUN WHICH OCCURRED AT MURTALA MUHAMMED AIRPORT ON 14TH MARCH, 2021

Registered owner and operator: Dornier Aviation Nigeria AIEP (DANA) Limited

Aircraft type and model: Dornier 328-100

Manufacturer: Dornier Aerospace International (DASI), GmbH 6020 Innsbruck, Austria

Year of manufacture: 2001

Nationality and registration marks: 5N-BUN

Serial number: 3109

Location: Runway 18L, Murtala Muhammed Airport, Lagos.

Date and Time: 14th March, 2021 at about 15:44 h

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

INTRODUCTION

Accident Investigation Bureau, Nigeria (AIB-N) was notified of the serious incident by the Bureau's Command and Control Centre on 14th March, 2021 at about 15:50 h. Investigators were dispatched and arrived at Runway 18L, Murtala Muhammed Airport, Lagos. Post incident assessment commenced immediately 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 initial facts, discussions and findings surrounding the occurrence; it includes information gathered from witness statements, site of occurrence and preliminary inspection of the aircraft.

The investigation is ongoing.

1.0 FACTUAL INFORMATION

1.1 History of the Flight

On the 14th of March, 2021 at 14:42 h, a Dornier 328-100 aircraft operated by Dornier Aviation Nigeria AEIP (DANA) with nationality and registration marks 5N-BUN departed Port Harcourt Military airport (DNPM) for Murtala Muhammed Airport Lagos (DNMM) as a scheduled passenger flight with number DAV487. The incident flight was the third sector for the day. On board were 20 persons inclusive of two (2) cockpit crew members, one (1) cabin crew member and one (1) aircraft maintenance engineer. Fuel endurance at the time of departure was 3 hours 30 minutes. The Co-pilot was the Pilot Flying (PF) while the Captain was the Pilot Monitoring (PM).

The take-off, climb, cruise, descent and approach phases of flight were normal.

The Crew stated that DAV487 on contact with Lagos Control, was cleared to LAG direct EDGOT to expect RADAR vectors for ILS Approach runway 18L.

At 15:41 h, Tower cleared DAV487 to land RWY 18L, with reported wind at 230°/06 kt and was advised to exercise caution on landing due bird activities, which the crew acknowledged.

At about 15:43 h, DAV487 touched down right of centre line, runway 18L.

According to the PF, during the landing roll, he retarded power levers to ground idle and then applied thrust reversers. Captain requested controls of the aircraft and the Co-pilot handed over control at speed below 60 knots decelerating.

The Co-pilot further stated that at about 50 knots, the Captain noticed a sudden veering of the aircraft to the right and called for "CONDITION LEVERS MIN" position. He then regained control of the aircraft momentarily. Thereafter, the aircraft veered right again uncontrollably onto the grass lawn and stopped.

At 15:44:27 h Tower called DAV487 to confirm Ops normal, DAV487 responded "Ops NOT normal..., we over ran the runway". Tower asked DAV487 if they needed any

assistance and the crew answered in the affirmative, after which the crew started the Auxiliary Power Unit (APU) and shut down the aircraft engines.

The Captain briefed cabin crew and passengers. All passengers disembarked normally without injury and were transported in the shuttle bus to the terminal building.

The incident occurred in daylight and Visual Meteorological Conditions prevailed.

1.2 Injuries to persons

Injuries	Crew	Passengers	Total in the Aircraft
Fatal	Nil	Nil	Nil
Serious	Nil	Nil	Nil
Minor	Nil	Nil	Nil
None	4	16	20
Total	4	16	20

1.3 Damage to aircraft

The aircraft was not damaged.

1.4 Other damage

Nil.

1.5 Personnel information

1.5.1 Captain

Nationality:	Nigerian
Age:	54 years
Licence type:	Airline Transport Pilot Licence (Aeroplane)
Licence:	Valid till 1st March, 2022
Aircraft ratings:	BE-1900D, Dornier 328-100, ATR 42/72
Medical certificate:	Valid till 1st March, 2022
Instrument rating:	Valid till 31st March, 2021
Proficiency check:	Valid till 31st March, 2021
Total flying time:	7,100 h
Total on type:	2,011 h
Total on type (PIC):	2,011 h
Last 90 days:	10.35 h
Last 28 days:	10.35 h
Last 7 days:	2.55 h
Last 24 hours:	0 h

1.5.2 First Officer

Nationality:	Nigerian
Age:	59 years
Licence type:	Airline Transport Pilot Licence (Aeroplane)
Licence:	Valid till 31st July, 2021
Aircraft ratings:	BE-200, Dornier 328, Embraer EMB-145, SD360, BE-1900, Dornier-228, EMB-110, CRJ-700/900
Medical Certificate:	Valid till 31st July, 2021
Proficiency check:	Valid till 31st March, 2021
Total flying time:	12,032 h

Total on type:	4,960 h
Last 90 days:	100.56 h
Last 28 days:	10.20 h
Last 7 days:	2.45 h
Last 24 hours:	0 h

1.5.3 Purser

Nationality:	Nigerian
Age:	23 years
Licence type:	Cabin Crew
Licence validity:	Valid till 31st December, 2022
Ratings:	B737-300, Dornier 328
Medical Certificate:	Valid till 31st December, 2022

1.6 Aircraft Information

1.6.1 General Information

Nationality and registration marks:	5N-BUN
Manufacturer:	Dornier Aviation Nigeria AIEP (DANA) Limited
Model:	DO 328-100
Serial number:	3109
Date of manufacture:	2001
Registered owner/ operator:	Dornier Aviation Nigeria AIEP (DANA) Limited
Certificate of Airworthiness:	Valid till 3rd April, 2021
Certificate of insurance:	Valid till 12th September, 2021

Certificate of registration:	Issued 9th December, 2016
Total hours since new:	14,636.38 h
Total cycles since new:	20,025

1.6.2 Power Plant

	Engine Number 1	Engine Number 2
Manufacturer:	Pratt & Whitney Canada	Pratt & Whitney Canada
Engine type:	PW 119C	PW 119C
Year of manufacture:	1998	1998
Serial number:	PCE-AZ0002	PCE-AZ0001
Total time since new:	29,353.25 h	25,539.20 h
Cycles:	19,793	19,834

1.6.3 Propeller

	No. 1	No. 2
Manufacturer:	Hartzell Propeller Inc.	Hartzell Propeller Inc.
Type:	HD-E6C-3B	HD-E6C-3B
Serial Number:	HL-224	HL- 207
Total time since new:	29,353.25 h	25,539.20 h
Total time since overhaul:	2,142.15 h	372.24 h

1.7 Meteorological Information

Time:	1400 UTC
Wind:	250°/03 kt
Visibility:	10 km

Weather: Nil
Cloud: BKN 90 m FEW CB 600 m (NW-SE)
Temp/Dew: 29 °C /25°C
QNH: 1011 hPa

Time: 1500 UTC

Wind: 210°/05 kt
Visibility: 10 km
Weather: Nil
Cloud: BKN 390 m FEW CB 600 m (NW-E)
Temp/Dew: 29 °C /25°C
QNH: 1010 hPa

1.8 Aids to Navigation

Status of the navigational aids at the Murtala Muhammed Airport on the day of the occurrence is as follows:

VOR/DME - 'Serviceable' -
ILS/DME - 'Serviceable'-

1.9 Communications

There was effective communication between the crew and ATC.

1.10 Aerodrome Information

Murtala Muhammed International Airport, Ikeja, Lagos, has a location indicator DNMM, elevation of 135 ft and a reference point of N06°34'38" and E03°19'16". The

Airport has four runways with a concrete/asphalt surface designated as runways 18L/36R and 18R/36L. The runways are equipped with ILS. ILS for Runway 18L is 110.3 MHz and that for Runway 18R is 108.1 MHz. A VOR/DME (113.7 MHz) is aligned with runway 18L centre line.

The runway length of 18L/36R is 9,006ft (2,745 m) with blast pads of 50/65 m and Runway 18R/36L is 12,795 ft (3,900 m) with blast pads of 120 m on both ends. The approach lights on both runways were serviceable at the time of the occurrence.

1.11 Flight Recorders

The aircraft is fitted with a Cockpit Voice Recorder (CVR) and a Flight Data Recorder (FDR). The recorders were retrieved and taken to the Bureau's Flight Safety Laboratory in Abuja for download and analysis. The details of the Flight Recorders are given below:

Cockpit Voice Recorder

Model:	A200S
Part Number:	S200-0012-00
Serial Number:	02551
Manufacturer:	Fairchild

Flight Data Recorder

Model:	F1000
Part Number:	S800-2000-00
Serial Number:	00947
Manufacturer:	Fairchild

1.12 Wreckage and impact information

Nil.

1.13 Medical and pathological information

Medical test was carried out on the cockpit crew.

1.14 Fire

There was no fire.

1.15 Survival Aspects

The occurrence was survivable because the aircraft was intact and there was liveable volume of space. The seat belt and harnesses were intact.

1.16 Test and Research

Nil.

Initial Findings

1. The flight crew were licenced and qualified to operate the flight.
2. The aircraft had a valid Certificate of Airworthiness.
3. The mass and centre of gravity of the aircraft were within the prescribed limits.
4. The Co-pilot was the Pilot Flying while the Captain was the Pilot Monitoring.
5. The take-off, climb, cruise, descent and approach phases of flight were reported to be normal.
6. ATC advised DAV487 to exercise caution due bird activities on Runway 18L.

7. Captain requested control of the aircraft and the Co-pilot handed over control at speed below 60 knots and decelerating.
8. At about 50 knots, the Captain noticed a sudden veering of the aircraft to the right which he corrected. The Captain called for "CONDITION LEVER MIN" according to the Cockpit Voice Recorder.
9. Aircraft veered to the right again into the grass verge.
10. The aircraft stopped in the grass verge right of Runway 18L.
11. Control Tower raised the aircraft to confirm if operation was normal.
12. The crew and passengers disembarked normally without injury.



Figure 1: The incident aircraft in the grass verge after veering off the runway



Figure 2: Condition levers position on the control pedestal