



**PRELIMINARY REPORT ON SERIOUS INCIDENT INVOLVING CHALLENGER 601-3R AIRCRAFT OWNED AND OPERATED BY MATTINI AIRLINE SERVICES LTD. WITH NATIONALITY AND REGISTRATION MARKS N580KR WHICH OCCURRED AT IBADAN AIRPORT, OYO STATE ON 26TH JANUARY, 2024**

<b>Registered owner and operator:</b>	Mattini Airline Services Ltd.
<b>Aircraft type and model:</b>	Challenger 601 – 3R
<b>Manufacturer:</b>	Bombardier Inc.
<b>Date of manufacture:</b>	1994
<b>Nationality and registration marks:</b>	N580KR
<b>Serial number:</b>	5148
<b>Location:</b>	Clearway, N07 <sup>0</sup> 21' 00", E003 <sup>0</sup> 58' 12" about 236 m from the end of Runway 22, Ibadan Airport, Oyo state
<b>Date and time:</b>	26th January 2024 at about 11:55 h

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

## **INTRODUCTION**

Nigerian Safety Investigation Bureau (NSIB) was notified by the Nigeria Civil Aviation Authority (NCAA) personnel in Ibadan of this occurrence via phone call on the 26th January, 2024. Investigators were dispatched, and arrived the scene the same day.

The Nigerian Safety Investigation Bureau commenced investigation into the circumstances of the occurrence under the provisions of Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2023 and Annex 13 of International Civil Aviation Organization (ICAO).



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, harvesting of evidence and a preliminary inspection of the aircraft.

**The investigation is ongoing.**



## **1.0 FACTUAL INFORMATION**

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

On 26th January 2024 at 11:05 h, a Challenger 601 – 3R with nationality and registration marks N580KR, owned and operated by Mattini Airline Services Limited departed Nnamdi Azikiwe International Airport (DNAA), Abuja for Ibadan Airport (DNIB), Oyo state as a private flight on an Instrument Flight Rules flight plan. The incident flight was the first sector of the day for the crew. On board were 15 persons inclusive of 2 cockpit crew and 1 cabin crew, with fuel endurance 2 hours 40 minutes. The Captain was the Pilot Flying (PF) while First Officer was the Pilot Monitoring (PM).

At 11:30 h, the aircraft contacted Ibadan ATC and passed the following information to it: "N580KR CL 60 Abuja Ibadan maintaining flight level 120 squawking 0404 POB 15-3 endurance 02 hours 40 minutes KR".

The Duty Air Traffic Controller (DATCO) requested from the crew their estimates for Ibadan, which in response was given as 11:55 h. The DATCO then asked the crew to confirm maintaining FL 120 and they responded in the affirmative.

At 11:33 h, the DATCO asked the crew to report 'released by Lagos' and to expect no delay for Ibadan RNAV approach Runway 22. The prevailing weather report passed to the crew was "050/08 kts 1,500m in haze no significant cloud the QNH 1016 and temperature is 27"

At 11:46 h, after being released by Lagos, N580KR informed the DATCO of leaving FL 120 for FL 060 and was asked to continue the descent to 3500 ft on QNH 1016, cleared for RNAV approach runway 22, to report Ibadan.

At 11:59, N580KR checked IB 500 established centerline for runway 22.

The DATCO responded: "N580KR with the runway in sight cleared to land runway 22 wind Easterly 11 kts, check greens" and the crew read back the landing clearance.

At 12:07 h, N580KR called the Tower four times without a response.



At 12: 08 h, N580KR called the Tower once again without a response.

At 12:09 h, the DATCO called N580KR to enquire about the safety of aircraft occupants. The crew responded that everyone was safe and the aircraft intact, except for the little overrun they had. The DATCO said that he could see the aircraft location and the fire service would come to help them.

The crew responded that they would be on standby.

The Aerodrome Rescue and Fire Fighting Service (ARFFS) in its report stated that its crew received information from the watch room about the unusual high speed of aircraft toward the end of runway 22.

The ARFFS personnel immediately moved to the incident scene, observed that there was neither smoke nor fire and that the passengers were already disembarking unaided.

The passengers were thereafter conveyed from the incident scene to the terminal building.

The NSIB investigation team observed conspicuous tyre marks at a distance of about 214 m to the end of runway 22.

While the aircraft was on the landing roll, the mid-section of the left-wing leading edge impacted an approach light. The approach light was broken and a dent with dimension (2x1.5x.25 inches) was produced on the leading edge. The aircraft travelled a distance of about 236 m from the end of runway 22 before coming to a stop.

In the post occurrence interview, the crew stated as follows:

“Approaching Ibadan airport, having been cleared for RNAV approach runway 22, we completed our checks and commenced configuration for our landing. We successfully selected our flaps to 20<sup>0</sup>, successfully lowered our gears, but had a flap failure when we attempted to lower our flaps further.



With our landing flaps restricted to 20<sup>0</sup>, the QRH instructed an additional 30 kts be added to the approach speed for arrival. This brought the approach speed to 164 kts, as our earlier calculated Vref speed was 134 kts.

We also had a quartering tailwind from the left, as given us by Air Traffic Control, which I calculated to be well within the aircraft's limits.

Unfortunately, the wind direction turned out to be more of a direct tail wind as we crossed the runway threshold. This stronger tail wind, coupled with thermal ground effect caused the aircraft to float over the runway and finally touched down much further down the runway than my target touch down point. Thus, the runway remaining was insufficient for me to bring the aircraft to a stop, and we overran the runway onto the clearway"

All passengers and crew disembarked safely.

The serious incident occurred in daylight and 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>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	12	15	Nil
<b>Total</b>	3	12	15	Nil

## 1.3 Damage to aircraft

The aircraft was slightly damaged.



## 1.4 Other damage

One of the approach lights on runway 04<sup>1</sup> was broken

## 1.5 Personnel information

### 1.5.1 Captain

Nationality:	Nigerian
Age:	62 years
Licence type:	FAA Airline Transport Pilot Licence (Airplane)
Aircraft ratings:	Airplane - Single/Multi engine B727, B737, DHC -7, BBD 700, BE 300(3501), CL 600(601), 604(605 CL 65), CRJ 900
Medical certificate:	Valid till 10th May, 2024
Simulator:	Valid till 10th May, 2024
Instrument rating:	Valid till 10th May, 2024
Proficiency check:	11th May, 2023
Total flying time:	20,000+ h
Total on type:	1,800 h
Total on type (PIC):	1,800 h
Last 90 days:	120 h
Last 28 days:	40 h
Last 24 hours:	Nil

### 1.5.2 First Officer

Nationality:	Nigerian
Age:	26 years
Licence type:	FAA Commercial Pilot Licence (Airplane)
Aircraft ratings:	Airplane – Single/ Multi engine

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<sup>1</sup> Runway 04 is a bi-directional of runway 22



	CL 600, CE 650
Medical certificate:	Valid till 10th May 2024
Simulator:	Valid till 18th August 2024
Instrument rating:	Valid till 18th August 2024
Proficiency check:	13th August 2023
Total flying time:	441 h
Total on type:	89 h
Last 90 days:	57.3 h
Last 28 days:	18.3 h
Last 24 hours:	Nil

### **1.5.3 Purser**

Nationality:	Nigerian
Age:	30 years
Licence type:	Cabin crew
Licence validity:	13th April 2025
Aircraft ratings:	HS -125, B737-300/500, CL-604/606

## **1.6 General Information**

### **1.6.1 Aircraft Information**

Type:	Challenger 601 – 3R
Manufacturer:	Bombardier Inc.
Date of manufacture:	1994
Serial no:	5148
Registered operator:	Mattini Airline Services Limited
Registration number:	N580KR
Certificate of airworthiness:	Issued on 23rd February 1994
Certificate of insurance:	Valid till 4th January 2024



Certificate of registration: Issued 21st November 2018  
Radio Station Authorization: Valid till 5th February, 2029  
Airframe time: 11453.3 h  
Cycles since new (CSN): 8315

### 1.6.2 Engines

	<b>No. 1</b>	<b>No. 2</b>
<b>Engine model</b>	GE CF 34 – 3A1	GE CF 34 – 3A1
<b>Manufacturer</b>	General Electrics, USA	General Electrics, USA
<b>Year of manufacture</b>	1993	1994
<b>Serial number</b>	807121	807188
<b>Time Since New</b>	11364.3 h	11314.5 h
<b>Cycles Since New</b>	8430	8280

Fuel type used: Jet A-1

### 1.7 Meteorological Information

**Time:** **1000Z**  
Wind: 030°/07 kt  
Visibility: 1.5 km  
Weather: Haze  
Cloud: NSC  
Temperature: 30 °C  
QNH: 1014hPa

**Time:** **1100Z**  
Wind: 020°/06 kt  
Visibility: 2.5 km





Weather:	Haze
Cloud:	NSC
Temperature:	32 °C
QNH:	1015 hPa
Trend:	Nil

<b>Time:</b>	<b>1200Z</b>
Wind:	130°/07 kt
Visibility:	2.5 km
Weather:	Haze
Cloud:	NSC
Temperature:	34 °C
QNH:	1014hPa
Trend:	Nil

### **1.8 Aids to Navigation**

VHF 122.6 MHz MAINS	–	“Serviceable”
VHF 121.7 MHz (PAE)	–	“Serviceable”
VHF 121.5 MHz (ICOM)	–	“Unserviceable”
VHF 112.1 MHz “IBA” VOR/DME	–	“Unserviceable”

### **1.9 Communications**

There was effective communication between the crew and relevant Air Traffic Control units. The crew did not report the flaps failure to the ATC.



### 1.10 Aerodrome Information

Ibadan Airport with ICAO designator code DNIB, is located 5 km, South-east from the city with an Aerodrome Reference Point 072144.6701N, 0035841.9893E and elevation of 221.810 m (727.714 ft). It has a bi-directional runway designated 04/22 with length 2,400 x 45 m According to the Aeronautical Information Publication (AIP), only VFR traffic is permitted.

Runway 22 has a Precision Approach Lighting System (PALS), LIL, CAT I, Distance-coded centre line approach light system.

The conventional runway edge lighting system is supplemented with solar-powered lights. A VOR/DME is located at DNIB with frequency 112.1 MHz. DNIB locator beacon is aligned with the extended centreline of runway 22.

### 1.11 Flight Recorders

The aircraft was fitted with the Cockpit Voice Recorder (CVR) only, with the following particulars:

	<b>Cockpit Voice Recorder</b>
<b>Model</b>	Magnetic Tape
<b>Part Number</b>	93-A100-83
<b>Serial Number</b>	61535
<b>Manufacturer</b>	Fairchild

The cockpit voice recorder was recovered and downloaded at the Transportation Safety Laboratory of the Bureau in Abuja.

It has a magnetic tape-recording medium of 30-minutes duration.

The sequence of event leading to, and after the occurrence were not captured due to the limited recording time and the non-disengagement of the recording after landing.



### **1.12 Wreckage and Impact Information**

The aircraft touched down deep into runway 22 beyond the touch down zone.

Conspicuous tyre marks were observed at a distance of about 214 metres to the end of runway 22. Shortly after, the aircraft started veering to the right in order to avoid a direct collision with the approach lights on runway 04.

However, the mid-section of the left-wing leading edge impacted one approach light. The approach light was broken and a dent with dimension (2x1.5x.25 inches) was produced on the leading edge surface.

Thereafter, the aircraft entered the clearway and travelled a distance of 163 m.

The total distance travelled by the aircraft from the end of runway 22 into the clearway before coming to a stop was 236 m.

The aircraft was intact with no visible damage, except the dent on the leading edge of the left-wing.

### **1.13 Medical and Pathological Information**

Toxicological test was conducted on the crew and the results were negative.

### **1.14 Fire**

There was no fire.

### **1.15 Survival Aspect**

The occurrence was survivable in that the passenger restraint system (seat belts and shoulder harnesses) were intact and there was liveable volume for the occupants.



### **1.16 Test and research**

Nil.

### **1.17 Organisational and management information**

Mattini airline Services Limited is an air operator based in the Federal Capital Territory, Abuja.

It was issued with a Permit for Non-Commercial Flight (PNCF) with permit number NCAA/ATR66/NCF95, valid till 27th February 2026, and authorization to operate One (1) Challenger 601 -3R aircraft.

### **1.18 Additional Information**

- The flight was operated by two Adhoc flight crew.
- The turbulence penetration speed for Challenger 601 -3R aircraft is 280 knots.
- The captain stated that he flew the aircraft at 230 knots due turbulence.
- The aircraft is 30 years old.



## Initial Findings

1. The flight crew were licensed and qualified to conduct the flight.
2. The Captain was the Pilot Flying while the First officer was the Pilot Monitoring.
3. The flight level filed in the flight plan was 220 but the crew maintained 120 throughout the flight.
4. The aircraft was cleared by ATC for RNAV approach, runway 22.
5. The crew stated that the flap selector was stuck at 20<sup>0</sup> detent after the aircraft has been configured for landing during the approach.
6. The crew did not report the flaps failure to the ATC.
7. Post Occurrence inspection revealed that flap surface position was in agreement with the flap selector.
8. The aircraft had a valid Certificate of Airworthiness.
9. The aircraft does not have a valid certificate of insurance.
10. The aircraft touched down deep into runway 22 beyond the touch down zone.
11. Conspicuous tyre marks were observed at a distance of about 214 metres to the end of runway 22. Shortly after, the aircraft started veering to the right in order to avoid a direct collision with the approach lights on runway 04.
12. The mid-section of the left-wing leading edge impacted one approach light.
13. One of the approach lights was broken and a dent with dimension (2x1.5x.25 inches) was produced on the leading edge surface.
14. The aircraft entered the clearway and travelled a distance of 163 m.
15. The total distance travelled by the aircraft from the end of runway 22 into the clearway before coming to a stop was 236 m.
16. Passengers disembarked without any injury.



## **IMMEDIATE SAFETY RECOMMENDATIONS**

### **Immediate Safety Recommendations 2024-002**

Mattini Airline Services Limited should ensure that its certificate of insurance is valid at all times.

### **Immediate Safety Recommendations 2024-003**

The Management of Mattini Airline Services Limited should encourage its flight crew to notify any service difficulty or malfunctioning aircraft system to the ATC for efficient emergency management.



**Figure 1: A view of the Runway 22 End Safety Area showing the aircraft tracks**



**Figure 2: A view of the Runway 22 clearway showing the aircraft tracks**



**Figure 3: Back view of the broken approach light on runway 22 end**



**Figure 4: Front view of the broken approach light on runway 22 end**



**Figure 5: The aircraft where it stopped**





**Figure 6: The left-wing Flap surface position on landing**



**Figure 7: The right-wing flap surface position on landing**



**Figure 8: Dent created about the mid-section of left wing leading edge surface**



**Figure 9: Flap handle Selector position on the flight pedestal**