

CIVIL AVIATION ACCIDENT

REPORT NO 04/354.

FEDERAL REPUBLIC OF NIGERIA
MINISTRY OF AVIATION

REPORT ON THE ACCIDENT TO BOEING 737 AIRCRAFT REGISTERED
5N-AUA THAT CRASHED AT THE NEW KADUNA AIRPORT ON MONDAY
THE 13TH NOVEMBER 1995.

Federal Ministry of Aviation
Accident Investigation Bureau

-----Department

Federal Secretariat,
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Ref. No: 04/354

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18th July, 1997

The Honourable Minister for Aviation,
Federal Secretariat ,
Shehu Shagari Way,
ABUJA.

CIVIL AVIATION ACCIDENT REPORT

Sir,

I have the honour to submit the report on the circumstances of the accident to the Boeing 737 Aircraft registered 5N - AUA that crashed at the new Kaduna Airport on Monday the 13th November 1995.

The Aircraft was operated by the Nigerian Airways Ltd.

K.K.O SAGOE


K.K.O SAGOE
Head of the Accident
Investigation Bureau.

REPORT ON THE ACCIDENT TO THE NIGERIA AIRWAYS BOEING-737-21`9
AIRCRAFT REGISTERED 5N-AUA AT NEW KADUNA AIRPORT ON MONDAY
13TH NOVEMBER, 1995.

AIRCRAFT DATA

Aircraft Type	-	Boeing 737-2179
Serial Number	-	22985
Nationality	-	Nigerian
Registration Marks	-	5N - AUA
Date of Construction	-	February 1983
Manufacturer	-	Boeing Commercial Airplane Co. Seattle, Washington, USA.
Operator	-	Nigeria Airways Limited, Airways House, Ikeja, Lagos.
Crew	-	Capt. I. B. Dambazau Pilot-in-Command Capt. C. A. Elom First Officer Chigbo Ndukwe Supernumerary Officer
Air Traffic Controller	-	Shuaibu Adamu Duty Officer
Place of Accident	-	End of Runway 23, Kaduna Airport
Location of Accident	-	LAT. 104142N LONG. 0071910E
Date and Time	-	13th November 1995 at 0753 UTC

1.0 Factual Information

1.1 History of the Flight

The aircraft departed from Lagos on Sunday the 12th of November at 18:20 UTC for a flight to Yola with transit stops at Kaduna and Jos. The first and third sectors of the flight were flown by the Captain, while the first officer was on the controls for the second sector (KAD -JOS) of the flight. They both had problems with the flight controls in these sectors (aircraft veering to the left or right). The aircraft landed at Yola at 21:00 UTC for a night stop and the crew arrived at their hotel by 22:00 UTC.

On Monday the 13th, the departure from Yola was 06:00 UTC and the aircraft landed in Jos at 06:40 UTC. The fatal sector resumed from Jos at 07:30 UTC for Kaduna. The first contact with Kaduna Air Traffic Controller was flight level 140. The crew reported an Estimated Time of Arrival in Kaduna at 07:46 UTC , 138 souls on board including 14 crew members and a fuel endurance of 3 hours. The Captain stated that the official crew members were eight in number and the extra six persons were boarded at his discretion and that of the Station Manager.

Mr Shuaibu Adamu, the Air Traffic Controller in Kaduna gave the aircraft an inbound clearance with no delay for a locator approach unto runway 05 and passed on the 07:00 UTC weather report. Though, the initial landing clearance was for runway 05, the Captain requested to land on runway 23. He was reminded by the Air Traffic Controller that the wind was from 090 magnetic, but he still insisted on using the 23 approach. The Captain, therefore, accepted to land with a tailwind.

At 07:42 UTC, the aircraft commenced its initial descent at 48 miles on the ILS/DME to 4,500 ft.. At 07:49 UTC, it was cleared to 3,500 ft. at 10 miles out and was later descended to 500 ft.

Meanwhile, inside the cockpit, the testimonies of the Captain, the First Officer and the observer were that the aircraft turned left from the track 310 to align with the runway 23 and that the aircraft was still in the turn when the threshold was sighted just 1 .5 miles to the left of the aircraft.

The First Officer asked the Captain "Can you make it to land from that position?". The observer also suggested going on the downwind; presumably to re-position the aircraft for landing on runway 05. There was no response at all from the Captain and the approach was continued for runway 23. The left turn was very steep and it took the aircraft to the left of the runway centreline and a right correction was applied. The observer had to shout a warning "Watch the wing" as the wings could have struck the ground on the final approach. By this time, the aircraft crossed the

with the flying pilot still struggling to maintain directional control for runway centreline alignment.

The aircraft touched down at 2020 ft (615.85m) from the end of the paved runway 05 after consuming 7820 feet i.e. 79.5% of the runway total length. The Captain was reported to have used 1.8 and 1.6 EPR (Engine Power Ratio) on the reversers. When a runway overrun became inevitable, the Captain turned the aircraft to the left with the intention to take advantage of the last rapid exit intersection to avoid the runway end lights.

At this juncture, the aircraft entered an uncontrollable skid. The attendant turning moments inevitably forced the right wing to hit the ground, thus rupturing the fuel tanks and a huge fire erupted. The accident occurred on Latitude 104142N and Longitude 071910E at day time.

1.2 Injuries to Persons

Injuries	Crew	Passengers	Others
Fatal	Nil	11	Nil
Serious	Nil	14	Nil
Minor/None	8/6	52/47	Nil

Fire was the cause of the number of casualties and serious injuries as passengers were either burnt to death or sustained injuries in their attempt to escape from the inferno.

1.3 Damage to Aircraft

The aircraft was totally destroyed by fire.

1.4 Other Damage

There was no damage to any other property.

1.5 Personnel Information

1.5.1 The Pilot-In-Command is a 43 year old Nigerian male with a Nigerian issued Airline Transport Pilot Licence Number 2911 valid until May 1996. He had his command ratings on B-737, Cessna-150 and Piper Aztec. As at the time of the accident, the Commander had a total flying experience of over 6,000 hours of which over 4,000 hours were on type. The Commander was qualified to take the flight.

1.5.2 The First Officer is a 39 year old Nigerian male with a Nigerian issued Commercial Pilot Licence Number 2884 which was valid until midnight 13th November 1995. His part 2 ratings were Boeing-737 and Boeing-727. The

Position	Serial No	Time Since Now TSN	Time Since Overhaul TSO
Number 1	P709015	13,543:26 Hours 15,540 Cycles	1524 Hours 1873 Cycles
Number 2	P708901	13,745 Hours 17,328 Cycles	608 Hours

1.7 Meteorological Information

When the aircraft was in contact with Kaduna Approach, the 0700 hours UTC. weather was passed on request as follows:

QAM - 0700 UTC
Wind - 090 @ 10 knots
Visibility - 6 kilometres
Weather - Broken at 9000 metres
QNY - Slight Dust Haze
Temperature - 20°C
QFE - 944HPA
QNH - 1018 HPA

A special weather report for Kaduna at 07:40 UTC before the accident was:

QAM - 07:40
QAN - 060 @12 knots
QBA - 5000 metres
QBB - Broken at 9000 metres
QNY - Slight Dust Haze

Another special weather report at 07:57 UTC after the accident was as follows:

QAM - 07:57 UTC
Wind - 060 @ 15 knots
Visibility - 2000 metres
Weather - BKN 9000 metres

QNY - Dust Haze Temperature - 23°C
QFE - 944 HPA
QNH - 1019 HPA

1.8 Aids to Navigation

VOR/DME - Available at Kaduna Military Airport
Locator Beacon - 'KC' - Serviceable ILS/DME
- Serviceable Localiser - Unserviceable

Glide Slope - Unserviceable

Radar Unserviceable for two years

1.9 Communications The communication between the Control Tower and the aircraft was good but there was an undue interference with the flight by the dispatch Officers of the Nigeria Airways Ltd.

1.10 Aerodrome Information

Kaduna runway 05/23 is 3,000 metres long and 60 metres wide. The aerodrome elevation is 2073 ft. The condition of the navigational and landing aids at the time of the accident was deplorable. The ILS/DME equipment which was serviceable, had its Localiser and the glideslope unserviceable (only the DME equipment was serviceable). The second serviceable Navigation aid on the aerodrome at the time of the accident was the Locator Beacon 'KC'. Thus, the aircraft made the approach on the barest minimum navigation and landing facilities.

1.11 Flight Recorders

The aircraft was equipped with Sundstrand FDR and Cockpit Voice Recorder (CVR.) and were retrieved from the wreckage in good conditions. The recorders were taken to the facilities of the National Transportation and Safety Board for read-out. While the CVR read-out was excellent, the FDR could not be read-out. The NTSB report stated that " the Sundstrand FDR part No. 1000550-3, serial No. 4750 is one of

the type of FDR whose use was ordered discontinued by ICAO effective 1 January, 1995. Therefore, the NTSB could not perform a read-out of this recorder".

1.12 Wreckage and Impact Information

The aircraft which turned into the last intersection at a speed close to its minimum control speed on ground, entered an uncontrollable skid to the right. The turning moments arising from the skid forced the right wing to hit the ground thereby rupturing the fuel tanks. The right wing and the fuselage were completely burnt and melted. There were charred remains of the nose section, left wing and empennage. The wreckage was located at the beginning of runway 05.

1.13. Medical and Pathological Information

It was very difficult to identify the victims of this accident. In the first place, most of the survivors did not wait to be recognised before they went away from the scene of the accident. Many survivors with minor injuries managed to get themselves into private hospitals. Majority of the victims died of second and third degree burns. This made it difficult to preserve their bodies inspite of the gallons of formalin applied on them. A mass burial was therefore given to eight of the victims.

1.14. Fire

There was an outbreak of fire originating from the ruptured right wing fuel tanks. The fire fighting was ineffective for two reasons: Firstly, the volume of water and foam brought to the scene of the accident by the MAC 06 and Bedford trucks got finished in no time and secondly, the fire fighting technique employed by the firemen was wrong; rather than attacking the source of the fire, they were busy trying to curtail the spread of the fire.

1.15. Survival Aspects

Though, the fire services promptly arrived at the scene of the accident, the performances of the fire personnel left much to be desired , in that they were fighting the spread of fire rather than fighting the source of fire. The foam and the water got exhausted in no time while the fire raged on with passengers still trapped In the aircraft. The method of combating the fire and the gross inadequacy of equipment greatly decreased the survival aspect of this accident.

1.16. Tests and research

None

1.17. Additional Information

No additional Information.

2.0 ANALYSIS

2.1 The Flight Cockpit Management was very pitiable in that only the Commander was treating the flight while the First Officer was only interested in acting as a mobile relay station on the company frequency passing information from the company's ground station at Abuja to the ground station at Kaduna.

2.2 In the cockpit, there was another Pilot, a status of First Officer occupying the jump seat as an observer. There seemed to be a rift between the Commander of this aircraft and the jump seat F/O . The jump-seat pilot claimed himself to be a member of the Nigeria Airways management, and hence superior to the Captain . The jump seat pilot went as far as hassling for the hotel suite that was reserved for the Captain the previous night on arrival at the hotel, the bad blood was still very much on the minds of both of them that co-operation between them on the flight deck was rendered Impossible. However it must be noted that a jump-seat pilot has no responsibility for the flight and should not interfere with the conduct of the flight, but in this case he did comment and almost took over the approach briefings from the Captain.

The Accident Investigation Bureau must conclude that the attitude of the jump seat First Officer adversely affected the professional conduct of the flight.

2.3 Evidence from the Cockpit Voice Recorder, indicated that no landing checks were carried out. The right seat scheduled first Officer was just too busy assisting in relaying messages between the ground dispatchers.

An NDB approach was flown into Kaduna and reports from eye witnesses and the evidence given from the cockpit indicated that the approach was not stabilised. The alignment of the aircraft was not achieved until the aircraft was far beyond the threshold of the runway.

2.4 The prominent contributory factor to the number of fatalities was the outbreak of fire. The aircraft touched-down at 7820 feet from the threshold of runway 23 leaving only a distance of 2020 feet as a breaking distance. At the time the aircraft was at the high speed intersection the speed was 76 knots. It was then that the Captain made the fatal mistake of attempting to turn into the high speed intersection when he noticed that a runway overrun was inevitable. Turning off at the speed of 76 knots created a situation in which the centripetal Force created enough turning moment about the right main gear as to roll the aircraft such that the starboard wing hit the ground. The centre tank ruptured close to the wing root and with sparks from the crumbling metal in the vicinity of aviation fuel a gigantic Inferno soon erupted.

The aircraft went into a right yaw and soon came to a stop. Most of the passengers managed to jump out and the fatalities were those who were overwhelmed by the toxic fumes and heat.

3. Conclusions.

(a) Findings

- (1) The Crew of the aircraft were properly licensed and they possessed sufficient experience for the flight.
- (2) The aircraft had a valid Certificate of Airworthiness and had been maintained in accordance with an approved maintenance schedule.
- (3) The aircraft's weight and centre of gravity were within the prescribed limits.
- (4) The weather conditions had no bearing on this accident.
- (5) The aircraft had adequate communications with the control tower.
- (6) The cockpit voice recorder was very useful in gaining an insight into the events in the cockpit prior to the accident.
- (7) The Flight Data Recorder(FDR) installed on this aircraft had already been advised by the ICAO to be discontinued effective from the 1⁰. January 1995, yet the operator did not heed this advice. So the FDR. could not be read-out by the NTSB experts thereby rendering it useless for this investigation.
- (8) Cockpit management broke down completely on this flight because the scheduled first officer prioritised his assistance of the ground dispatchers over his flight duties. Whereas the

inclusion of the jump-seat pilot also constituted a nuisance to the captain. However, the captain-in-command failed completely to stamp his authority on the cockpit.

(9) The captain of the aircraft complained about the sluggishness

of the aircraft in roll but the AIB overrules the excuse as it was his responsibility to ensure the safety of the flight before its

(10) The final approach phase of this flight was so unstable that a missed approach should have been decided upon by the captain in consonance with the advise that his first officer had given.

(11) The touch down point of 7820 ft from the threshold of runway 23 left only 2020 ft as a braking distance. The overrun was therefore, inevitable.

The decision of the commander of the aircraft to turn into the high speed intersection at 76 knots climaxed the accident.

(12) Eight persons died immediately from their injuries at the site of the accident and three others died a couple of days later in the

(13) The fire services promptly arrived at the scene of the accident but their initial haulage of water and foam did not extinguish the fire. Still it must be observed that the fire fighting technique mostly concentrated on cooling down the heat rather than attacking the source of the fire.

(14) Nigeria Airways Limited failed to match the compatibility of crew members in the rostering for this flight.

(15) Records indicate that the attitude of the commander of this aircraft towards other members of staff of the airline leaves a lot to be desired.

3b Probable cause of the Accident

(1) The probable cause of the accident is the continuation of a highly unstabilized approach when the option of a missed approach

(in The contributing factor was the turn off at 76 knots into the high speed intersection when an overrun into the extended runway end should have been maintained.

4. Safety Recommendations

4.1 Extended runway ends are normally designed to accommodate runway over-runs because all materials on the extended centre-line are frangible. The decision of the pilot-in-command to turn into the high speed intersection of the runway actually caused the fire which resulted in the fire outbreak. The captain should have heeded the advice of the other cockpit occupants to hold the aircraft on the centreline.

4.2 The Company's flight Operation department must think about compatibility when matching the flight crew members for harmonious and safe operation.

4.3 Airline operators may wish to constantly advise and encourage their pilots to carry out a missed approach at the earliest hint of doubt or difference of opinion within the cockpit area.

4.4 The Fire personnel need more training in the act of modern fire fighting. The fire services need to be better equipped with fire fighting facilities.

1. *Brake Marks showing the attempted turn.*

2. *Left Marks - Left landing gear marks, 2 middle marks - Nose wheel marks.*

3. *Aircraft tail assembly after the crash.*

4. *The aircraft position after the crash*

5. *Nose wheel and left wing after the crash.*

6. *Remnants of the aircraft nose left wing and empenange.*

Appendix I

>0722:47 {00:08} C Start of Recording

>0737:00 {14:21} C Start of Transcript

>0737:00 {14:21} F/O KADUNA TOWER NIGERIA 357
GOOD MORNING

>0737:05 {14:26} TOWER NIGERIA 357 GOOD MORNING GO

>0737:08 {14:29}
F/O FROM JOS TO KADUNA MAINTAINING FLIGHT LEVEL 140, AIRBORNE 0730;
ESTIMATING TMA AT 39; KC DESTINATION AT 46; 8737, REGISTRATION 5N-AUA,
WE HAVE ON BOARD 138 SOULS, CREW 14; ENDURANCE 03:00, GO AHEAD.

>0737:34 {14:55}
TOWER NIGERIA 357 CLEARED TO KC LOCATOR APPROACH, FL 140, EXPECT
NO DELAY FOR A LOCATOR APPROACH RUNWAY 05, TIME NOW 39.

>0737:49 {15:10}
F/O CLEARED TO THE KC LOCATOR APPROACH, STANDING BY FOR THE
WEATHER.

>0737:57 {15:18}
TOWER 0700 MET REPORT: WIND 09010 KNOTS, VISIBILITY 6 KM.
BROKEN AT 9000KM, SLIGHT DUST HAZE, QNH 1019; TEMPERATURE 20

>0738:07 {15:28}
F/O CONFIRM 1019,20

>0738:11 {15:32}
TOWER THAT IS CORRECT

>0738:17 {15:38}
F/O ROGER, WILL CALL YOU FOR DESCENT.

>0738:33 {15:54}
TOWER 806, KADUNA

>0738:35 {15:56} A/C
GO AHEAD

>0738:37 {15:58}
TOWER ARE YOU IN TOUCH WITH JEDDAH?

>0738:40 {16:01}
A/C SAY AGAIN PLEASE

>0738:42 {16:03}
NIGERIA 357 WILL GO ON WITH KADUNA SIR, WE ARE 140
MAINTAINING

>0738:47 {16:08}

JOS CONTINUE, GOOD MORNING.

>0738:48 {16:09}

F/O GOOD MORNING

>0738:58 {16:19}

F/O KADUNA DISPATCH 357

>0739:01 {16:221}

DISPATCH 357, JOS GO AHEAD

>0739:03 {16:24}

F/O KADUNA DISPATCH NIGERIA 357

>0739:11 {16:32}

DISPATCH 357, GOOD MORNING

>0739:13 {16:34}

F/O WE ARE EXPECTING TO BE ON CHOKES AT TIME OF 55 AIRCRAFT IS UA, CAPTAIN DAMBAZAU CREW OF 3/5 TAKE OFF WEIGHT FOR LAGOS WILL BE 52 TONNES FUEL WILL BE 94 AND OUR BURN OFF TO LAGOS WILL BE STANDARD AND TRANSIT TO LAGOS 125 PASSENGERS WITH A BAGGAGE OF, TRANSIT OF 300 KG IN HOLD ONE AND THE OTHER BAGGAGE OF 205 IN HOLD TWO TIME EXPECTED ON GROUND 55, WE ARE GOING TO KEEP NO. ONE ENGINE RUNNING, SO WE WILL BE REQUESTING A QUICK TURN AROUND.

>0740:00 * {17:21}

DISPATCH OK 357 KADUNA.

>0740:04 {17:25} SNY GO AHEAD

>0740:05 {17:26}

DISPATCH YEAH WE HAVE SERIOUS PROBLEM HERE WE HAVE ALMOST 30 WE HAVE 30 ON OUR MANIFEST FOR THIS FLIGHT AND THE FLIGHT IS FULL WE ARE CONTACTING LAGOS AND ABUJA IF THEY CAN SEND US AIRBUS TO THIS STATION TO ENABLE US CARRY OUR PASSENGERS. CAN YOU HELP US RAISE LAGOS AND WE ARE STILL STANDING BY ON THE RADIO IF THEY CAN GRANT OUR REQUEST?

>0740:32 {17:53}

SNY ABUJA REQUESTING

>0740:35 {17:56}

F/O ABUJA CANNOT GIVE THEM LAGOS WILL NOT RE-ROUTE THAT FLIGHT

>0740:39 {18:00}

CAPT LETS TALK LIKE THIS,

>0740:45 {18:06}

F/O HAS IT NOT LANDED?

>0740:48 {18:091}

F/O ABUJA DISPATCH 357

>0740:51 {18:12}

DISPATCH NIGERIA 357 GO AHEAD

>0740:14 {18:-251}

F/O DO YOU HAVE CONTACT WITH NIGERIA 471?

>0740:56 {18:17}

DISPATCH AFFIRMATIVE, HE IS WITH YOLA 127.9

>0741:03 {18:24}

F/O OK THANK YOU

>0741:11 {18:32}

A/C 471 ESTIMATING WA 50..WE 07-FLIGHT LEVEL 170 OUT OF 225

>0741:24 {18:45}

SNY HE IS GOING TO BE THERE IN 30 MINUTES

>0741:26 {18:47}

F/O YES, BUT EH IS 471 NOT ALREADY AIRBORNE FOR

>0741:32 {18:53}

F/O THEY WILL NOT RELEASE THAT FLIGHT, LAGOS WILL NOT.

>0741:57 {19:181}

CAPT KADUNA NIGERIA 357 REQUESTING DESCENT

>0742:00 {19:21}

TOWER NIGERIA 357 DESCEND TO4500 FT.

>0742:08 {19:29}

F/O 3500 FT CONFIRM?

>0742:10 {19:31} SNY 4500

>0742:11 {19:32} TOWER YOUR DME?

>0742:13 {19:341}

F/O UNDERSTAND 4500 FT. WE HAVE 48 ON THE ILS

>0740:45 {18:06} TOWER OK

>0742:20 {19:41} F/O NA WA O

>0742:22 {19:43}

TOWER CONFIRM LEAVING 140

F/O WE ARE NOW LEAVING 140 NOW FOR 4500 FT AS CLEARED.

>0742:27 {19:48}
TOWER ROGER

>0743:31 {20:52}

VOICE NA HERE BE KADUNA
>0743:36 {20:57}

VOICES I DID NOT KNOW WHEN THEY DID THAT.....
>0743:40 {21:01}

SNY ONE STANDARD ACCIDENT YOU GET INVOLVED IN ANOTHER CRISIS
ALTOGETHER
>0743:44 {21:05}

CAPT I DID NOT KNOW
>0743:45 {21:06}

SNY ONE DID NOT EXPECT IT AT ALL
>0743:57 {21:18}

PURSER LADIES AND GENTLEMEN WE ARE NOW COMMENCING OUR DESCENT
INTO KADUNA
>0743:59 {21:20}

DISPATCH NIGERIA 357 KADUNA
>0744:01 {21:22} F/O
GO AHEAD

>0744:03 {21:24}

DISPATCH OK FROM YOUR COMPANY HERE IN KADUNA, THEY SAY IF YOU CAN
RAISE NIGERIA 471 FROM ABUJA TO LAGOS YOU CAN SAY THAT
REQUEST HAS BEEN GRANTED FROM LAGOS THAT HE CAN COME TO
KADUNA AND CARRY PASSENGER
>0744:15 {21:36} F/O
OK THEN

>0744:20 {21:41}

F/O ABUJA DISPATCH, GOOD MORNING NIGERIA 357
>0744:27 {21:48}

F/O NIGERIA 471 THIS IS NIGERIA 357
>0744:31 {21:52} A/C
GO AHEAD

>0744:32 {21:53}

F/O OK, LAGOS REQUESTS THAT YOU ROUTE THROUGH KADUNA
>0744:38 {21:59}

A/C LAGOS REQUESTS THAT WE ROUTE THROUGH KADUNA?
>0744:40 {22:01}

F/O AFFIRMATIVE, TO PICK UP PASSENGERS BECAUSE WE HAVE FULL

>0744:46 (22:07)

A/C OK THANK YOU VERY MUCH.

>0744:49 (22:10) F/O
ANY TIME

>0744:51 {22:12}

A/C ABUJA NIGERIA 3.. CORRECTION 471

>0744:56 (22:17) DISPATCH
471, GO

>0744:57 {22:18}

A/C WE JUST RECEIVED INFORMATION FROM COMPANY BACK HOME TO
ROUTE TO KA.....

>0745:02 {22:23}

F/O 35 MILES PASSING 145

>0745:07 (22:28)

TOWER AT WHAT LEVEL WOULD YOU LIKE...

>0745:10 {22:31}

A/C LEVEL, THE ONE EH 50

>0745:15 (22:36)

TOWER ROGER TURN RIGHT

>0745:28 {22:49}

VOICE OK DANJUMA MAY I HAVE THE CAPTAIN'S NAME AND REGISTRATION

>0745:32 (22:53)

F/O THIS IS CAPTAIN OGBOGU AND REGISTRATION YOU HAVE TO STAND

>0745:36 {22:57}

VOICE OK THANK YOU VERY MUCH

>0745:38 {22:59}

F/O 471 COMPANY

>0745:44 (23:05)

F/O NIGERIA 471 COMPANY PLEASE

>0745:46 (23:07)

A/C OK

>0745:53 {23:14}

F/O THAT IS SURPRISING O, LAGOS NO DEY GREE, HE NO DEY GREE

>0745:59 (23:20)

VOICE

>0745:58 (23:19) F/O

YOU SAY?

>0745:59 {23:20} VOICE GOOD.....

>0746:01 {23:22}

VOICE SO FAR SPEAK ENGLISH

>0746:02 {23:23} VOICE I WANT A

>0746:04 {23:251}

VOICE 12KILOMETERS
HORN

>0746:06 {23:27} SNY ONE TO GO

>0746:11 {23:321}

F/O NIGERIA 471 APPROACHING 4500 FT, 20 MILES

>0746:15 {23:36}

TOWER CONFIRM NIGERIA 357

>0746:17 {23:38}

F/O THIS IS NIGERIA 471,1 MEAN NIGERIA 357 SORRY

>0746:20 {23:41} TOWER OK

>0746:23 {23:44}

TOWER PREPARE FOR THE LOCATOR APPROACH RUNWAY 05, REPORT
AGAIN ESTABLISHED

>0746:28 {23:49}

F/O WE ARE PASSING RUNWAY 23 SIR

>0746:30 {23:51} TOWER SAY AGAIN

>0746:31 {23:52}

F/O WE ARE PASSING RUNWAY 23

>0746:34 {23:55}

CAPT THE OLD CLEARANCE WAS RUNWAY 05, YES?

>0746:36 {23:57}

F/O AFFIRMATIVE SIR WE ARE PASSING 23

>0746:38 {23:59}

TOWER ROGER, CLEARED FOR A STRAIGHT IN LOCATOR APPROACH
RUNWAY 23, REPORT ESTABLISHED

>0746:44 {24:05} A/C 357,471.

>0746:46 {24:07}
SNY HE IS CALLING YOU
>0746:46 {24:071}
F/O OK, CONFIRM YOU ARE ON YOUR WAY NOW
>0746:49 {24:10}
A/C AFFIRMATIVE
>0746:50 {24:11}
F/O OK AIRCRAFT CONFIRM NOVEMBER YANKEE?
>0746:53 {24:141}
TOWER ARE YOU ABLE TO CONTACT 471?
>0746:54 {24:15}
A/C ACTUALLY WE ARE 19.... AT THE MOMENT
>0746:56 {24:17} SNY 19

>0746:57 {24:181}
F/O OK CONFIRM YANKEE
>0747:00 {24:21}
A/C YANKEE AFFIRMATIVE
>0747:01 {24:22} F/O OK THEN

>0747:02 {24:23}
A/C OK THANK YOU
>0747:07 {24:28}
F/O EH IDOFO, 357
>0747:10 124:31}
DISPATCH GO AHEAD SIR, MY BROTHER
>0747:11 {24:32}
F/O NOVEMBER YANKEE DE SEE YOU ON GROUND
>0747:13 {24:34}
DISPATCH OK NO PROBLEM YOU ARE WELCOME

>0747:15 {24:36} SNY I WONDER

>0747:17 {24:38}
F/O AND THAT THEY HAVE 19 PASSENGERS
>0747:20 {24:41}
DISPATCH SAY AGAIN
>0747:21 {24:421}
F/O THEY HAVE 19 PASSENGERS

>0747:23 (24:44)

DISPATCH YEAH I COPY THEM
>0747:31 (24:52)

F/O KADUNA NIGERIA 357
>0747:34 (24:55) TOWER 357 GO

>0747:35 {24:56}

F/O WHAT WAS YOUR LAST TRANSMISSION SIR?
>0747:37 (24:58)

TOWER WERE YOU ABLE TO CALL 471?
>0747:39 (25:00)

F/O AFFIRMATIVE, THEY ARE ON THEIR WAY TO KADUNA
>0725:06 (02:27) TOWER ROGER

>0747:43 (25:04)

F/O THANK-YOU
>0747:44 (25:05) TOWER PLEASURE

>0747:51 {25:121}

A/C KADUNA NIGERIA 471
>0747:54 (25:15)

TOWER CONFIRM THATS 471
>0747:55 (25:16)

A/C AFFIRMATIVE, GOOD MORNING
>0747:57 (25:18)

TOWER GOOD MORNING, GO AHEAD
>0747:59 (25:20)

A/C OK WE ARE COMING TO KADUNA, WE DEPARTED ABUJA AT
 40. ESTIMATING KADUNA AT 0807. 0807. 47 ON BOARD AND
>0748:15 {25:36}

CAPT MAKE THEM CARRY ALL THE PASSENGERS NOW
>0748:19 125:40)

TOWER AGAIN ENDURANCE
>0748:20 {25:41) A/C 02:30

>0748:21 (25:42)

TOWER WHAT ABOUT FLIGHT LEVEL

>0748:23 {25:44}
A/C 150
>0748:25 {25:46}
TOWER CLEARED TO KC LOCATOR FLIGHT LEVEL 150 EXPECT NO DELAY FOR
THE LOCATOR APPROACH RUNWAY 05 TIME IS 49 GO AHEAD
>0748:36 {25:57}
A/C ROGER KC LOCATOR 05 LEVEL 150 NIGERIA 471
>0748:41 {26:02}
TOWER WEATHER, 090 10 KNOTS 6 KILOMETERS CLEARED OF HAZE BROKEN
'9 MIST NH 1019 TEMPERATURE 20
>0748:52 {26:13}
A/C ITS OK WILL CALL YOU LATER
>0748:54 {26:15}
TOWER WHAT ABOUT TMA?
>0748:56 {26:17}
A/C TMA TIME WAS 55
>0749:03 {26:24}
F/O 357 LEAVING 4500 FOR 3500 FEET 10 MILES
>0749:08 {26:29}
TOWER REPORT AGAIN FIELD IN SIGHT
>0749:10 {26:31}
F/O 357
>0749:19 {26:401}
TOWER 471 NUMBER OF CREW ON BOARD?
>0749:25 {26:461}
TOWER NIGERIA 471, NUMBER OF CREW ON BOARD
>0749:27 {26:48}
A/C 08
>0749:25 {26:46}
F/O LAGOS SHOULD MAKE UP THEIR MIND
>0749:35 {26:56}
F/O 3500
>0749:37 {26:58}
CAPT EM
>0749:43 {27:04}
F/O WANT TO GO DOWN SOME MORE?
>0749:45 {27:061}
SNY DEM JUST SAY

>0749:52 {27:13}

Flo I GIVE YOU 2500
>0749:56 {27:17}

CAPT THAT BE 1000 FT ABOVE GROUND
>0750:12 {27:33}

VOICE AIRCRAFT KANO
>0750:13 {27:34}

Flo WHAT DO YOU SAY?
>0750:15 {27:36}

SNY AIRCRAFT.....
>0750:16 {27:37}

C SOUND OF MORE WIND
>0750:23 {27:44} C CLICKING OF TRIMS OR
FLAP LEVERS

>0750:26 {27:47}
ENGINE NOISE INCREASES SLOWLY

>0750:24 {27:45} CAPT FLAPS 25

>0750:27 {27:48}

Flo START SWITCHES
>0750:28 {27:49} CAPT ON

>0750:29 {27:50}

Flo SPEED BUG
>0750:30 {27:51} CAPT SET

>0750:30 {27:51}

Flo SPEED BRAKE LEVER
>0750:31 {27:52} CAPT ON

>0750:32 {27:53}

F/O LANDING GEAR
>0750:33 {27:54} CAPT DOWN

>0750:34 {27:55} Flo FLAPS

>0750:34 {27:55} CAPT

>0750:35 {27:56}
DIRSER IN A SHORT WHILE WE SHALL BE LANDING AT KADUNA
>0750:35 {27:56}
A/C EH. KADUNA WILL BE 140..... BE IN CONTACT WITH KANO
>0750:46 {28:07}
A/C DO YOU HAVE ANY TRAFFIC TO COMMENCE OUR DESCENT?
>0750:49 {28:10}
TOWER NEGATIVE

>0750:50 {28:111}
A/C OKINDO SEE YOU ON OUR WAY BACK
>0750:53 {28:14}
TOWER ROGER

>0751:05 {28:26}
CAPT LETS GO TO 550
>0751:06 {28:27}
SNY YEAH

>0751:07 {28:28}
F/O ON RADIO ALTIMETER
>0751:08 {28:29}
SNY YEAH!

>0751:09 {28:30}
VOICE CABIN SET FOR LANDING
>0751:11 {28:32} F/O
THANK YOU

>0751:12 {28:33}
F/O GET A BUZZ
>0751:20 {28:41}
SNY THINK YOU CAN START TURNING IN NOW?
>0751:23 {28:44}
CAPT THE STEERING HAND SAYS 239 NOW
>0751:25 {28:46}
F/O EH

>0751:28 {28:49}
F/O OK

>0751:30 {28:51}
SNY YOU HAVE ANY FIELD THERE NOW?

>0751:32 {28:531}

F/O NO NOT YET
>0751:34 {28:55}

CAPT THATS THE FIELD
>0751:35 128:56}
F/O OK

>0751:39 .{29:00}

SNY THEY SAY IT IS 14 MILES TO KC
>0751:40 {29:01}

CAPT FOLLOW ME WITH RUDDER FOLLOW ME TO LEVEL UP
>0751:43 {29:04}

SNY9
>0751:53 {29:14}

F/O YOU ARE 500
>0751:54 {29:15}

CAPT YES LETS GO DOWN
>0751:56 {29:17}

C INCREASED ENGINE NOISE
>0752:04 (29:25}

SOUND ??????????(VOICE?)
>0749:00 (26:211 F/O
SAY AGAIN

>0752:07 {29:28}

F/O . BUILDING INSIGHT
>0752:12 {29:33}

SNY OK THATS THE KABO, THATS THE AIRCRAFT WHICH CRASHED TWO
LEFT, 14 LEFT
>0752:16 {29:37}

F/O NIGERIA 357 FIELD IN SIGHT SHORT FINALS
>0752:25 {29:46}

TOWER WIND IS 090 AT 15 KNOTS
>0752:30 {29:51}

F/O WE ARE GOING TO LAND 357
>0752:38 129:59}

C AURAL WARNING! AURAL WARNING!
>0752:42 (30:03)

C WOOOPH WOOOPH BIIIIIP

>0752:4 {30:05}
 4 C
 AURAL WARNING
 >0752:49 {30:10}
 F/O YOU CAN GO DOWN O!

 >0752:5 {30:12}
 F/O REDUCE POWER 160

 >0752:59 {30:20}
 F/O ???????

 >0753:0 {30:24}
 3 SNY
 MAX REVERSERS, MAX REVERSERS MAX REVERSERS, MAX
 >0753:17 {30:38}
 SNY NO NO NO NO NO NO NO NO NO NO NO NO NO NO NO

 >0753:19 {30:401}
 F/O EASY

 >0753:2 {30:43}
 F/O NO

 >0753:2 {30:44}
 3 C SOUND OF CRASHING METAL

 >0000:00 { }
 VOICE 130

1	A	B	C	D	E	F	G	H
	BLAS	a					a	B L
	FIELD	FIELD	h ^p	FIELD TAXI	p	~, FI O	LD	PAD FIELD
3				APRON	o w - w	u w n w L.		
	NATIONAL AVIATION FUEL DEPOT				FCAA FIRE CATHIN	CAPENTRV QWATER 7 NAA STORE ELECTP		
G	ACC E	'S RQAd			ACCESS R	AD		
				Qb J4 ~ 171 & IJ i	g 31	PREPARED BY: S.D. HEAD OF AIR TRAFFIC	FMINMODU SERVICE	