



AIRCRAFT ACCIDENT REPORT

NCAT/2012/05/23/F

Accident Investigation Bureau

**Report on the Serious Incident involving
Tampico TB-9 Aircraft belonging to the Nigerian
College of Aviation Technology (NCAT) with
Registration Number 5N-CBI which occurred at
the Zaria Aerodrome in Kaduna State on 23rd
May, 2012.**

This report was produced by the Accident Investigation Bureau (AIB), Murtala Muhammed Airport, Ikeja, Lagos.

The report is based upon the investigation carried out by Accident Investigation Bureau, in accordance with Annex 13 to the Convention on International Civil Aviation, Nigerian Civil Aviation Act 2006, and Civil Aviation (Investigation of Air Accidents and Incidents) Regulations.

In accordance with Annex 13 to the Convention on International Civil Aviation, it is not the purpose of aircraft accident/serious incident investigations to apportion blame or liability.

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As the Bureau believes that safety information is of great value if it is passed on for the use of others, readers are encouraged to copy or reprint for further distribution, acknowledging the Accident Investigation Bureau as the source.

Recommendations in this report are addressed to the Regulatory Authority of the State (NCAA). It is for this authority to ensure enforcement.

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GLOSSARY OF ABBREVIATIONS USED IN THIS REPORT



AFIS	Aerodrome Flight Information Service
AIB	Accident Investigation Bureau
CVR	Cockpit Voice Recorder
ICAO	International Civil Aviation Organisation
MDA	Minimum Decision Altitude
MDH	Minimum Decision Height
N/A	Not Applicable
NCAA	Nigerian Civil Aviation Authority
NOTAM	Notice to Airmen
NTSB	National Transport Safety Board
PAPI	Precision Approach Path Indicator
CARs	Civil Aviation Regulations
ASL	Above Sea Level
hPa	Hecto Pascal
NCAT	Nigerian College of Aviation Technology
SP	Student Pilot
FI	Flying Instructor
VFR	Visual Flight Rules

FL	Flight Level
KIAS	Knots (Indicated Airspeed)
MOE	Maintenance Organisation Exposition
AVGAS	Aviation Gasoline
KTS	Knots
ODC	On-Duty-Card
FAAN	Federal Airport Authority of Nigeria
AOA	Aircraft Operating Area
PPE	Personal Protective Equipment
HV	High Visibility
ATC	Air Traffic Controller



AIB

5N-CBI

Aircraft Accident Report No:

Registered Owner and Operator: Nigerian College of Aviation Technology (NCAT),
Zaria

Aircraft Type and Model: Tampico Club TB-9

Manufacturer: EADS SOCATA FRANCE

Date of Manufacture: 1996

Registration Number: 5N-CBI

Serial No.: 1862

Location: Zaria Aerodrome

Date and Time: 23rd May, 2012 at 1721hrs Local time.

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

SYNOPSIS

Accident Investigation Bureau (AIB) was notified of the occurrence by the College on the 23rd of May, 2012. The AIB investigators arrived at the College on the 24th of May 2012 and commenced the investigation the same day.

All relevant authorities were notified accordingly.

The aircraft was operated by the Nigerian College of Aviation Technology (NCAT) and registered under special category (Training) with the Nigerian Civil Aviation Authority (NCAA).

On the 23rd May, 2012 the Student Pilot (SP) and the Flying Instructor (FI) were scheduled for the first flight training of the day. The SP took-off at 0720hrs on a dual training exercise under the supervision of the FI. The SP made a full stop landing at 0825hrs after several practices of circuits and landings at the aerodrome thereby ending the first training period.

At 1620hrs, the SP and the FI took-off for the second training session for the day and landed at 1705hrs after five circuits and landings. After the last landing while the SP was about to shut-down the engine of the aircraft, the FI made a radio call to the Control Tower that the SP was ready to go on the first Solo flight and thereafter the FI disembarked from the aircraft and proceeded to the Control Tower to monitor and observe the flight.

After departure, the SP reported left downwind leg maintaining 3100ft for runway 24. On final approach, the SP reported reducing power when the runway was noticed to be going under the aircraft which meant that the aircraft was coming high.

The aircraft landed at 1721hrs. During the landing roll an attempt was made to exit the runway to the right via exit 3 onto the taxiway to the apron at a high speed. The

aircraft veered-off the centreline of the runway to the right, missed exit 3, continued to roll onto the grass and then finally came to rest with the nose gear in the drainage ditch. The SP contacted the Control Tower and reported the occurrence.

The SP was evacuated from the aircraft unhurt and taken to NCAT clinic, examined and certified fit.

The investigation identified the following causal and contributory factors:

Causal factor

The decision to vacate the active runway at an excessive speed.

Contributory factor

The clearing of the SP for first solo flight was premature.



1.0 FACTUAL INFORMATION

1.1 History of the Flight

On the 23rd May, 2012 the Student Pilot (SP) and the Flying Instructor (FI) were

scheduled for the first flight training of the day. After conducting the necessary pre-flight checks on 5N-CBI, the SP took-off at 0720hrs on a dual training exercise under the supervision of the FI. The SP made a full stop landing at 0825hrs after several practices of circuits and landings at the aerodrome thereby ending the first training period.

At 1620hrs the SP and the FI took-off for the second training session for the day and landed at 1705hrs after five circuits and landings. After the last landing while the SP was about to shut-down the engine of the aircraft, the FI made a radio call to the Control Tower that the SP was ready to go on the first Solo flight and thereafter, the FI disembarked from the aircraft and proceeded to the Control Tower to monitor and observe the flight.

The SP requested and obtained taxi clearance from the Control Tower to the holding position on runway 24. The SP lined up on the centreline of runway 24 and took-off at 1714hrs. After departure, the SP reported left downwind leg maintaining 3100ft.

The SP reported turning base leg, power was set to 2000rpm, flaps were set to take-off and trimmed for 80knots and then descent was initiated using the runway as landmark. Turning finals, flaps were set to landing configuration and the aircraft trimmed for 70knots; descent continued keeping the centreline, approach perspective and speed while approaching the runway. The SP reported reducing power when the runway was noticed to be going under the aircraft which means that the aircraft was coming high.

The aircraft landed at 1721hrs. During the landing roll, an attempt was made to exit the runway to the right via exit 3 onto the taxiway to the apron. The aircraft veered off the centerline of the runway to the right, missed exit 3, skidded off to the left of the exit, continued to roll onto the grass and then finally came to rest with the nose gear in the drainage ditch. The SP contacted the Control Tower and reported the occurrence. The incident occurred at coordinates of 110752.41N, 0074108.34E at an elevation of 655m, in day light.

The SP was evacuated from the aircraft unhurt and taken to NCAT Clinic, examined and certified fit.

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	Not Applicable
None	1	Nil	1	Not Applicable
TOTAL	1	Nil	1	Not Applicable

1.3 Damage to Aircraft

The aircraft was substantially damaged.

1.4 Other Damage

Not applicable

1.5 Personnel Information

1.5.1 Student Pilot

Nationality: Nigerian

Age: 19 years

5N-CBI

Licence No:	Student Pilot Licence (SPL) 5984
Licence Validity:	23rd Feb, 2014
Aircraft Ratings:	Nil
Medical Certificate:	Class II
Total Flying Experience:	25hrs 40mins
On Type:	25hrs 40mins
Last 24 hours:	03hrs 0mins
Last 7 days:	09hrs 30mins
Last 28 days:	18hrs15mins
Last 90 days:	25hrs40mins

The FI sought the opinion of another instructor on the 21st of May, 2012 as required by the NCAT Flight Training Manual (FTM). After four circuits and landings, the second instructor recommended that the student is "to continue circuits and landings" with the FI to build up confidence. In addition, another instructor, on the request of the FI, counselled the SP on the 23rd May, 2012, no entries of this were made in the SP's progress report.

1.5.2 Flight Instructor

Nationality:	Nigerian
Age:	41 years
Licence No:	CPL 4735
Licence Validity:	29 th May, 2012

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Aircraft Ratings:	TB-9, TB-20, PA-23, BE-58, TBM-700
Medical Certificate:	Class I
Total Flying Experience:	2066 hrs
On Type:	1250 hrs
Last 24 hours:	4:1hrs
Last 28 days:	41:3hrs
Last 90 days:	67:6hrs

1.6 Aircraft Information

1.6.1 General Information

Aircraft manufacturer:	EADs SOCATA France
Model :	Tampico Club 9
Serial number:	1862
Date of manufacture:	1996
Nationality:	Nigerian
Registration mark:	5N-CBI
Owner/Operator:	NCAT
Certificate of Airworthiness:	12th August, 2012
Total Hours since New:	717 hrs 37min
Total Landings:	1318
Total Hours since Last Inspection:	16 hrs 4min

Total Landings Since Last Inspection: 78

1.6.2 Power Plant

Manufacturer: Textron Lycoming, USA

Engine Type: Lycoming O-320-D2A

Serial Number: L-17823-39A

Total Time Since New: 682hrs 48min

Total Time Since Overhaul: 641hrs 48min

1.6.3 Propeller Data

Manufacturer: SENSENICH

Model Number: 74.DM.6.S8.054

Number of blades: 2

Type: Fixed Pitch

1.6.4 Weight and Balance Data

The aircraft was loaded within the permissible weight and balance limits.

1.6.5 Fuel Information

Type of fuel used: Avgas 100LL Blue

1.7 Meteorological Information

The following weather conditions prevailed on the day of the occurrence:

At 1600 UTC

Wind: 270/10KT

Visibility: 20km
Weather: Nil
Cloud: NSC
Temp/Dew: 33 °C/ 19°C
QNH: 1012hPa

At 1700 UTC

Wind: 260/10Kt
Visibility: 20km
Weather: Nil
Cloud: NSC
Temp/Dew: 32°C/18°C
QNH: 1012hPa



1.8 Aids to Navigation

Non Directional Beacon (NDB) was serviceable at the time of the occurrence.

1.9 Communications

Control Tower There was good communication between the aircraft and the Control Tower throughout the duration of the flight.

1.10 Aerodrome Information

Aerodrome code: DNZA

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Airport name:	Zaria Airport
Airport Address:	Sokoto Road, Zaria
Airport Class:	III
Airport Authority:	FAAN
Airport Services:	AFIS
Type of traffic permitted:	VFR
Coordinates :	110752.41N, 0074108.34E
Elevation:	655m
Runway:	06/24
Runway Length:	1646 Meters
Runway Width:	46 Meters
Meteorological service:	Hourly observation – Actual observation
Hours of operation:	Sunrise – sunset

At the time of this occurrence the runway and exit markings were not clear.

5N-CBI



Figure 1: The Unclear Runway Markings



Figure 2: The Unclear exit 3 Markings

1.11 Flight Recorders

The aircraft was not fitted with a flight data recorder or cockpit voice recorder. Neither of the recorders is required by the Regulations.

1.12 Wreckage and Impact Information

During the landing roll the aircraft veered off the runway, skidded and impacted a ditch parallel to the runway. The aircraft came to rest on a heading of 2850 magnetic. This resulted in damage to the propeller blade, denting the outboard of the left wing leading edge. The taxi and landing light cover was broken.



Figure 3: The broken Landing and Taxi Light cover

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Figure 4: The damaged Propeller

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Figure 5: The Damaged left wing leading edge

1.13 Medical and Pathological Information

The SP evacuated the aircraft without injury, taken to the NCAT clinic, examined and certified fit.

1.14 Fire

There was no evidence of pre or post impact fire.

1.15 Survival Aspect

The occurrence was survivable as the aircraft structure remained intact after the incident.

1.16 Test and research

Not Applicable

1.17 Organization and Management Information

1.17.1 Flying School (Student First Solo Flight)

The Nigerian College of Aviation Technology (NCAT) Zaria Flying School Procedures Manual, Chapter 1, Section 1.5 extract:

FIRST SOLO

15.1 AIM

The Student Pilot only becomes really confident in his own ability to fly when he knows that he can do it without the aid of an instructor. There are therefore, obvious advantages in allowing him to go solo as soon as he is fit to do so.

The Student's Instructor must exercise very careful judgment in this matter and should arrange the pre-solo test with another experienced instructor only when the student has complied with all the statutory and practical flight requirements.

- (i) Principles involved*
- (ii) The air exercise briefing*
 - (a) Applicable procedures and checklists*
 - (b) Aircraft handling techniques*
 - (c) Considerations of airmanship and engine handling*
 - (d) Similarity to previous exercises*
 - (e) De-briefing after flight*

15.2 PRINCIPLES INVOLVED

Statutory Requirements

(i) This ensures that the student has met the following requirements:

(a) Passed within the last 30 days the written Student Pilot licence air law examination for issue of above licence.

(b) Passed a written technical examination on aircraft type.

(c) Is able to use the aircraft radio with reasonable confidence.

(d) Is medically fit to hold student pilot's Licence

(ii) Flight Instruction.

(a) The student must have satisfactorily completed training on sequences 1 to 14 of the flight Instruction

Syllabus prescribed in NCAR.

(b) The student pilot must have written authority from the instructor to undertake the solo flight and his authority must be made in writing in student's presence (i.e. authorization sheet).

Note: The student's first solo flight normally come at the end of a period of dual circuits and landings and he should, therefore, only be given a short briefing on what to expect and solo for during his first solo for during his first solo flight.

Do not confuse him with lot of detail which he already knows about because he should not be undertaking his first flight if the instructor is not confident about sending him on solo.

Remember that the standard required for the first solo is safety before precision.

1.18 Additional Information

1.18.1 Extracts from NCAT Flying School Procedures Manual (FSPM)

Chapter 2, Section 2.2.2.5 (Taxiing Checks) and Section 2.2.2.12 (Landing Checks) respectively of the Flying School Procedures Manual:

Landing Checks

The following are some of the procedures for the normal conduct of the operations of the SOCATA TB-9 aircraft from the flight manual:

Taxiing

Parking brake : Release

Brakes : Checked

Flight Instruments : Checked

Taxi light (if installed) : As required

Avoid exceeding 1200RPM as long as the oil temperature indicator pointer is within the yellow sector.

Steering the airplane with the rudder pedals only is generally sufficient. The combined use of the rudder pedals and the brakes permits, if necessary, tight turns.

Check operation of gyroscopic instruments (horizontal attitude, heading and turn and bank indicators) by means of alternate turns.

Approach – Landing

FINAL:

Airspeed: 76 KIAS

Flaps: TAKE-OFF

Fuel pump: ON

Mixture: FULL RICH

Carburettor heating: ON or OFF as required

Brakes: Checked

Seats, seat belts,

Shoulder harnesses: ADJUSTED and SECURE

Landing lights: ON

SHORT FINAL:

FLAPS

LANDING

1.18.2 Aerodrome Markings and Signage

Extracts from Airport Services Manual (ASM):

Airport pavement markings and signs provide information that is useful to a pilot during take-off, landing and taxiing.

There are six types of signs that may be found at the airports which includes the following with their purpose:

- 1. Mandatory instruction signs—red background with white inscription. These signs denote an entrance to a runway, critical area, or prohibited area.*
- 2. Location signs—black with yellow inscription and a yellow border, no arrows. They are used to identify a taxiway or runway location, to identify the boundary of the runway, or identify an instrument landing system (ILS) critical area.*
- 3. Direction signs—yellow background with black inscription. The inscription identifies the designation of the intersecting taxiway(s) leading out of an intersection.*
- 4. Destination signs—yellow background with black inscription and also contain arrows. These signs provide information on locating things, such as runways, terminals, cargo areas, and civil aviation areas.*

5. *Information signs—yellow background with black inscription. These signs are used to provide the pilot with information on such things as areas that cannot be seen from the control Tower, applicable radio frequencies, and noise abatement procedures. The airport operator determines the need, size, and location of these signs.*
6. *Runway distance remaining signs—black background with white numbers. The numbers indicate the distance of the remaining runway in thousands of feet.*

1.18.3 Safety Issues Observed During the Investigation

The following safety issues which are neither causal nor contributory to this occurrence were identified:

1.18.3.1 Perimeter Fencing of Zaria Aerodrome

Large portion or section of Zaria Aerodrome is not fenced such that unauthorised persons and stray animals find their way into the airside.

1.18.3.2 Vehicle Movement in Manoeuvring Areas at Airport.

FAAN Airside Vehicle Control Manual requires all authorised vehicles on the airport operation or manoeuvring area must be marked with the company name/logo in a manner that is consistent with the industry standard practices.

1.18.3.3 Use of High Visibility Clothing at the Airside

High visibility clothing should provide adequate protection both during the day and night. At the airside, there are many potential risks to workers, in particular, the risk of being struck by moving aircraft or airside vehicles.

1.18.3.4 NCAT Aircraft Fuelling Procedures:

Fuelling activities in NCAT aircraft are carried out with trolley carrying drum containing Avgas which is pushed very close to the aircraft to be refuelled without any earthing and proper bonding.

Before refuelling an aircraft, the fuelling equipment (the hand pump) should be checked to ensure that the filters are correct and serviceable. Delivery of fuel to an aircraft should be via a filter monitor type element or equivalent filter.

TB-9 aircraft uses Avgas as its fuel. Re-fuelling from drum storage or cans should be considered as an unsafe operation and one to be avoided whenever possible.

Fuelling from drums:

Re-fuelling from drum storage or cans should be considered as unsatisfactory operation and to be avoided whenever possible. All containers of this nature should be regarded with suspicion and the content carefully inspected, identified and checked for water and other contamination.

Drums or cans should if practicable, be protected from the sun and weather, all drums should be stored off the ground and, on their sides, with the bungs accessible. Drums stored vertically can accumulate water around the bungs which can be sucked into the drum by thermal heating and cooling of the fuel.

Additionally, fuel in the can or drum should be used according to the fuelling delivery date, oldest stock first. Avgas has a six (6) month shelf life therefore old fuel should be sampled and checked by laboratory before use in an aircraft.

Only clean drums with good interior should be used. When fuel storage in drum has occurred for long periods, the use of this is questionable unless it has been tested for quality. Bungs should always be screwed tightly into empty drums because an open bung hole allows hazardous vapour to escape from the drum after the drum has been emptied.

When fuelling from drums, it is advisable to use five (5) micron filtered portable pumping unit, the best filtering equipment available locally or as a last resort, a chamois skin filter and filter funnel.

Remember, re-fuelling from the drums or cans is unsatisfactory. Extraordinary precautionary measures necessary to eliminate the hazard of water and other contaminants should be taken.

The TB-9 maintenance procedure for fuelling operations is as follows:

Personnel

Line maintenance personnel and certifying staff who have received proper training and hold an internal authorization Certification are authorised to conduct or supervise aircraft refuelling

Procedure

Before refuelling, the refuelling equipment shall be checked to ensure that the filters are current and serviceable. Delivery of fuel to an aircraft should be via a filter monitor type element or equivalent filter.

Visual examination:

Fuel should be considered unfit to use in aircraft if visual examination shows:-

- 1. More than a trace of sediment;*
- 2. Globules of water;*
- 3. Cloudiness*
- 4. A positive reaction to water finding paste, paper, or chemical detector*

The following should serve as a guide to the visual assessment of fuels:

- 1. Colour: aviation gasoline 100 LL are dyed blue.*

2. *Undissolved water (free water) will appear as droplets on the sides or as bulk water on the bottom of the sample vessel. When suspended water is present the fuel will appear hazed or cloudy.*
3. *Solid matter (particulate matter) generally consists of small amounts of rust, sand, dust, scale, etc. suspended in the fuel or settled out on the bottom of the sample vessel.*
4. *The terms 'clear' and 'bright' are independent of the natural colour of the fuel. 'Clear' refers to the absence of the sediment or emulsion. 'Bright' refers to the sparkling appearance of fuel free from cloud or haze.*

Sample container

Clean clear glass jars with necks and screw caps should be used for sample examination. Where, in addition, buckets are utilised, they should be manufactured from stainless steel. When fuel is drawn into buckets they should be bonded to the fuel line by cable and clip. All sampling equipment should be kept in a scrupulously clean condition.

Sampling procedures

1. *Water finding paste applied to the end of a dipstick or dip tape should be used for direct checking of fuel in bulk storage, barrels or fuelling vehicles. Fresh paste must be used for each check and the dipstick allowed to rest on the bottom of the container for a short period of time, but not for longer than 10 seconds.*
2. *Fuel samples from above ground storage tanks and aircraft fuelling vehicles should be drawn from sampling or drain cocks. From buried tanks and barrelled supplies, fuel samples should be obtained by using a thief pump.*
3. *Sample size should be sufficient to complete a full and conclusive check of the state of the fuel. As a general guide, when sampling from fuel company delivery vehicles, bulk storage or aircraft fuelling vehicles, approximately 4 ½ (4.5) litres should be drawn from each compartment. A one litre sample will suffice when*

checking barrelled fuel supplies and for after fuelling checks on hydrant dispensers.

- 4. Samples should then be checked for colour, sediment, water globules, cloudiness, and general cleanliness. Check for free or suspended water by using a water-detecting paste or paper. The presence of free or suspended water is indicated by a distinct change in the colour of the paste, paper or detector element.*
- 5. If a fuel sample proves to be unsatisfactory then the sampling procedures should be repeated. If a third sample is necessary and proves to be unsatisfactory, then action should be taken to identify the cause of contamination and no fuel dispensed to aircraft from the installation concerned. It would, in this case, be advisable to inform and seek advice from the fuel supplier concerned.*

Retained samples

- 1. Samples, minimum of one litre, should be taken and retained from the following activities:*
 - 1. From the bulk tank, hydrant system, vehicle or packed stock, each day aircraft refuelling is made.*
 - 2. Whenever samples are taken for laboratory testing.*
- 2. Samples should be retained for a minimum of seven days or longer, if required by the authority.*
- 3. All samples should be kept in a cool place, stored out of daylight, and labelled with the following information:*
 - 1. Grade of fuel*
 - 2. Reason for sample*
 - 3. Date and time of sample*
 - 4. Place taken;*

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5. *name of sampling person*
6. *These samples are the means whereby the Quality Engineer or line maintenance staff responsible for refuelling of aircraft may demonstrate satisfactory quality of the fuel used for refuelling of aircraft. They will be of particular value in demonstrating compliance with the requirements of the Air Navigation (Civil Aviation) Regulations following an accident involving an aircraft that had refuelled from the installation.*



2.0 ANALYSIS

2.1 The First Solo Flight

The first solo flight of a new pilot is a flight within which a pilot is the sole occupant of the aircraft usually completing a short flight and safe landing. Such a flight is a milestone in a pilot's career. The solo flight requires the student pilot to accomplish a minimum number of training hours and other requirements before he or she is allowed for solo flight as stated in Section 15.1 of the NCAT Flight Training Manual (FTM008). These requirements were assessed to have been met prior to this occurrence.

The investigation found out that the FI sought the opinion of another instructor on the 21st of May, 2012 as required by the NCAT Flight Training Manual (FTM008). After four circuits and landings, the second instructor recommended that the student is "to continue circuits and landings" with the FI to build up confidence.

The SP was scheduled to go on the first solo after a number of circuit and landing exercises accompanied by the Flight Instructor, it was after the FI's satisfaction and/or judgment that the SP was released to go on the first solo.

The decision to release the SP for solo flight by the FI was premature considering the various entries made in the SP's progress report from the 21st to 23rd of May, 2012 and the second instructor's assessment.

2.2 The Approach and Landing

During the final approach the SP reported coming high as the runway was noticed to be passing underneath the aircraft. The SP maintained centre line, attitude and speed. The SP reduced the power and it is expected that the rate of descent increases by pitching down the nose of the aircraft (diving) in order to maintain a normal approach profile.

Upon assessment of the SP's progress report, there were several entries made by the instructors of the SP's inability to properly manage approaches and landings. These deficiencies were not adequately addressed before being released for the solo flight.

During the landing roll, the SP attempted to slow the aircraft by ensuring that the throttle was closed, applied the brakes and then decided to exit the runway via exit 3. The turn was made at a high speed leading to the aircraft skidding off to the left of the exit onto the grass area. The aircraft finally stopped in a drainage ditch.

The aircraft's brakes were checked by the Bureau's investigators post-occurrence and they were found to be okay and serviceable.

2.3 Zaria Aerodrome Markings and Signage

According to the International Civil Aviation Organization (ICAO) *"an aerodrome is a defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft."*

Zaria aerodrome is a controlled aerodrome licensed by NCAA operating under the Nig.CARs, Part 12. Some of the attached conditions involve, among others, the presence of Control Tower manned by an Air Traffic Controller, Signs and Markings etc.

At the time of this investigation, the Bureau discovered that the markings and signs on the College Runway were not clearly visible to allow users, especially Student Pilots, to clearly identify them and hence needs re-marking.

3.0 CONCLUSIONS

3.1 Findings

1. The FI sought the opinion of another instructor on the 21st of May 2012 as required by the NCAT Flight Training Manual (FTM008). After four circuits and landings, the second instructor recommended that the student is "to continue circuits and landings" with the FI to build up confidence.
2. The SP was on a First Solo flight.
3. The SP made a turn with excessive speed.
4. The SP was aware that the whole length of runway was available to stop the aircraft but decided to turn-off via exit 3.
5. The instructor left the Control Tower immediately after touchdown without observing the landing roll.
6. The aircraft skidded off the runway unto the grass area, left of the exit and came to a stop at a drainage ditch.
7. There were overgrown shrubs along the edge of the taxiway.
8. Runway markings were not clear.
9. The aerodrome does not have complete perimeter fence.
10. Vehicles operating at the manoeuvring areas (airside) are not properly designated and equipped.
11. Aircraft fuelling operation in NCAT are carried out with drum carrying trolleys which are pushed very close to the aircraft to be refuelled without proper bonding.
12. Most NCAT employees assessing the airside do not wear high visibility (HV) clothing as required.

3.2 Causal Factor

The decision of the SP to vacate the active runway at an excessive speed.

3.3 Contributory Factor

The clearing of the SP for first solo flight was premature.



4.0 SAFETY RECOMMENDATIONS

4.1 Safety Recommendation 2017-036

NCAT should, in collaboration with FAAN, immediately erect proper signage markings for the four exit points on the runway and ensure that all the markings at the aerodrome are visible.

4.2 Safety Recommendation 2017-037

NCAT should ensure HV-Clothing is used on the airside as a standard practice.

4.3 Safety Recommendation 2017-038

NCAT should designate a competent person to supervise fuelling procedures in the College.

4.4 Safety Recommendation 2017-039

NCAT should incorporate the following in their Procedures Manual or Maintenance Organizational Exposition (MOE):

- Dispensing Equipment Procedures.
- Electrostatic Protection Procedures.
- Contamination Protection Procedures.
- Related record keeping procedures.

4.5 Safety Recommendation 2017-040

FAAN should ensure that overgrown shrubs at the airside are regularly cut and trimmed to prevent obscuring pilots view in locating markings and signage.

4.6 Safety Recommendation 2017-041

FAAN should ensure that The Aerodrome is completely fenced and secured, to prevent stray animals and unauthorised persons from entering the airside.

4.7 Safety Recommendation 2017-042

FAAN should ensure that Vehicles moving into the manoeuvring areas are fitted with amber lights and equipped with I-Com radio transceiver as required in the FAAN Airside Vehicle Control Manual and ICAO Annex 14.



RESPONSES TO SAFETY RECOMMENDATIONS

NCAT Response on AIB Safety Recommendations

NCAT responded to Safety Recommendation 4.1 (2017-036) as follows:

"The College shall in collaboration with FAAN erect proper signage markings for the four exit points on the runway. The College shall also ensure that all markings at the aerodrome are visible."

NCAT responded to Safety Recommendation 4.2 (2017-037) as follows:

"The College will provide adequate number of HV-Clothing to staff in order to ensure that HV-Clothing is used on the airside."

NCAT responded to Safety Recommendation 4.3 (2017-038) as follows:

"The Engineer in charge of the Flight line supervises the fuelling of aircraft. The College will designate competent personnel to supervise fuelling procedures."

NCAT responded to Safety Recommendation 4.4 (2017-039) as follows:

"The College will consider and incorporate the recommended procedures in the Maintenance Procedures Manual under review."

APPENDICES





5N-CBI

APPENDIX A

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EXERCISE		GEN:	INST:	NAV:	DATE: 21-05-2012
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Cats & lds

A/C REGISTRATION	5N-CBJ		FLYING INSTRUCTOR	
FLYING TIME GMT	1320	1420		GRADE
:HR :MIN	01	00		A-

COMMENTS

start, cockpit set up, coms, ground ops ⇒ OK
PWR Management ⇒ OK except on short finals
procedure ⇒ OK handling ⇒ OK except on finals.

1 - T/O & climb ⇒ OK

Approach ⇒ Talk thru

2 - T/O & climb ⇒ OK

Approach ⇒ high

3 - T/O & climb ⇒ OK

Approach ⇒ high

4 - Demo

5 - T/O & climb ⇒ OK

Approach ⇒ Talk thru

6 - T/O & climb ⇒ OK

Approach ⇒ poor on short

7 - T/O & climb ⇒ OK

cat ⇒ wide

cat ⇒ OK

landing ⇒ a little hard

cat ⇒ OK

ldg ⇒ Go around

cat ⇒ fair

ldg ⇒ Assisted

cat ⇒ OK

ldg ⇒ fair & Safe

cat ⇒ OK

ldg ⇒ Assisted

cat ⇒ OK

ldg ⇒ ballooned & assisted

RECOMMENDATIONS:

To continue cats & lds

SIGNATURE

5N-CBI





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- * still dependant on the instructor
- * still having difficulty controlling the airplane on shortfinals
- * Still impatient on round out.
- * She must take correct action ~~on round~~ at the right time, otherwise desired results will not be achieved.

EXE

C P

W

st

1-

2

3



29

EXERCISE	GEN:	INST:	NAV:	DATE: 22-05-2012
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cets & ldgs.

WC REGISTRATION	SN-CBB	FLYING INSTRUCTOR	
FLYING TIME GMT	0915	1015	GRADE
:HR :MIN	09	00	A-

COMMENTS

start ⇒ OK checklist ⇒ OK grd ops ⇒ OK

1- Tlo & climb ⇒ OK

Approach ⇒ OK (Talk thru)

2- Tlo & climb ⇒ OK

Approach ⇒ low

3- Tlo & climb ⇒ OK

Approach ⇒ low

4- Tlo & climb ⇒ OK

Approach ⇒ poor

5- Tlo & climb ⇒ Demo

Approach ⇒ follow thru

6- Tlo & climb ⇒ OK

Approach ⇒ low

cet procedures ⇒ OK

ldg ⇒ OK (Talk thru)

cet ⇒ OK

ldg ⇒ Assisted

cet ⇒ OK (Talk thru)

ldg ⇒ Assisted

cet ⇒ Talk thru

ldg ⇒ Assisted

cet ⇒ Demo

ldg ⇒ follow thru

cet ⇒ OK

ldg ⇒ fair & safe

Conditions: - fairly smooth, good visibility, faint horizon, w/c

RECOMMENDATIONS: wx, broken low cloud, light x-winds

To continue cets & ldgs.

SIGNATURE

* NOT taking actions at the right time on finals especially

7 - Tlo & climb \Rightarrow OK

Approach \Rightarrow OK

ect \Rightarrow OK

ldg \Rightarrow would have been
a 3-pointer if not
for slight assistance.

* Appeared to be having issues on the onset of
approach becoming slightly high or low

* Rejected Tlo \Rightarrow OK

* EFATO \Rightarrow 1st attempt fair, subsequent attempts were
generally OK.

* Go around procedures \Rightarrow OK

5N-CBI





5N-CBI

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EXERCISE		GEN:	INST:	NAV:	DATE: 23-05-12
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1st supervised solo.
Cuts & lds + Emergencies

VC REGISTRATION	5N-CBI		FLYING INSTRUCTOR	
FLYING TIME GMT	1620	1705		GRADE
:HR :MIN	00	45		A

COMMENTS

EFATO ⇒ Generally acceptable

Rejected T/O ⇒ OK

Go around ⇒ OK

1 - T/O & climb + EFATO ⇒ OK

Approach ⇒ fair

cut ⇒ fair

ldg ⇒ fair & safe.

2 - T/O & climb + EFATO ⇒ OK

Approach ⇒ OK

cut ⇒ OK

ldg ⇒ Safe but +ve (talk thru)

3 - T/O & climb ⇒ OK

Approach ⇒ fair

cut ⇒ OK

ldg ⇒ Go around (OK)

4 - T/O & climb ⇒ OK

Approach ⇒ acceptable

cut ⇒ OK

ldg ⇒ OK

5 - T/O & climb ⇒ OK

Approach ⇒ OK

cut ⇒ OK

ldg ⇒ Safe.

Conditions :- Smooth, light winds, fair horizon, nil wx,

RECOMMENDATIONS: nil clouds.

cleared for 1st solo flight
1- landing only.



SIGNATURE



FSU

EXERCISE	GEN:	INST:	NAV:	DATE: 23-05-2012
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cets & ldgs + introduction to emergencies

V/C REGISTRATION	5N-CBI		FLYING INSTRUCTOR	
FLYING TIME GMT	0720	0825		GRADE
:HR :MIN	01	05		A-

COMMENTS

start ⇒ OK 1st ops ⇒ OK handling ⇒ OK except on short final

1 - Demo of aborted T/O & EFATO

Approach ⇒ follow thru

2 - T/O & climb ⇒ OK

Approach ⇒ Talk thru

3 - T/O & climb ⇒ OK

Approach ⇒ OK

4 - T/O & climb ⇒ OK

Approach ⇒ high initially

5 - T/O & climb ⇒ OK

Approach ⇒ Talk thru

6 - T/O & climb ⇒ OK

Approach ⇒ OK except on short final,
came high then rushed down.

CONDITIONS: - light X-winds, smooth, nil wx & clouds, clear horizon.

RECOMMENDATIONS:

To continue cets + emergencies

SIGNATURE

5N-CBI

