



5N-CBP



PRELIMINARY REPORT ON INCIDENT INVOLVING TAMPICO CLUB TB-9 AIRCRAFT OPERATED BY NIGERIAN COLLEGE OF AVIATION TECHNOLOGY (NCAT), ZARIA WITH NATIONALITY AND REGISTRATION MARK 5N-CBP WHICH OCCURRED AT RUMA VILLAGE, BIRNIN-GWARI LOCAL GOVERNMENT AREA, KADUNA STATE ON 1st MARCH, 2019

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

Aircraft Type and Model: Tampico Club TB-9

Manufacturer: Daher Socata

Date of Manufacture: 29 July, 1996

Nationality and Registration Marks: 5N-CBP

Serial Number: 1768

Location: Ruma Village, Birnin-Gwari Local Government Area, Kaduna State



(7.5nm North West of Kaduna International Airport)

10°47'65"N 007°14'35"E

Date and Time:

1st March, 2019 at about 1615 h
{All times in this report are local time (UTC +1) unless otherwise stated}

INTRODUCTION

Accident Investigation Bureau (AIB) was notified of the serious incident by Nigerian College of Aviation Technology (NCAT), Zaria on Friday 1st March, 2019. Investigation team was dispatched and investigation commenced upon the arrival at the site under the provisions of Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2016 and ICAO Annex 13.

The purpose of this preliminary report is to provide details of the initial facts and discussion surrounding the incident; it includes information gathered from witness statements and a preliminary inspection of the aircraft and the accident site.

The investigation is ongoing.



1.0 FACTUAL INFORMATION

1.1 History of the flight

On the 1st of March 2019, a Tampico Club (TB 9) aircraft with nationality and registration mark 5N-CBP, operated by NCAT Zaria, was on a test flight to test an overhauled engine that was installed, post-hard landing/propeller strike inspection, 100 h inspection and also to determine the serviceability of on-board navigation equipment. The latter purpose was to be done by executing an Instrument Landing System (ILS) approach at Kaduna International Airport (DNKA).

The Head, Flight Maintenance department stated that on the 28th November, 2018 the aircraft was involved in a hard landing and propeller ground strike incidence.

According to the Pilot, he checked for relevant documents, conducted the routine preflight inspection on the aircraft, and subsequently filed a flight plan.

At 1513 h, the Pilot requested start up from ATC which was granted. The Pilot started the engine and performed after engine start checks, engine and instruments were normal.

The Pilot stated that the aircraft departed ramp with approximately 40 gallons of fuel onboard (equivalent to 5 hrs endurance).



At 1520 h, the aircraft taxied out and checks were conducted on the ramp as required by test flight guidelines illustrated in the Test Flight Form. Taxi was normal, power checks (engine run up) were observed okay. However, the maximum static Revolution per minute (RPM) for the engine was observed to be slightly low (2450). The Pilot drew the attention of the Engineer onboard who said it was normal due to the fact that it was a newly overhauled engine.

The aircraft requested for takeoff clearance and was granted.

At 1540 h, the aircraft was airborne. At 1545 h and passing through FL 65, the aircraft reported two-way contact with Kaduna Tower and was transferred to Kaduna Tower. The aircraft continued climb straight to FL 75 and at approximately 10nm to Kaduna VOR (KDA), the Pilot requested to establish on radial 300° at 5nm to KDA. This is to enable him conduct a Velocity Never Exceed Speed (V_{NE}) check which was part of the test flight. On reaching 5nm on radial 300°, the Pilot requested for rapid descent from FL 75 to 5000 feet which was granted.

The Pilot reported that upon descending to 5000 feet, wings level was attained, speed was bled to about 100 KIAS and throttle was advanced for cruise. At this point he realized that the engine was not responding to throttle input, as power was near idle. He then switched fuel tanks and put on electric fuel pump to eliminate the possibility of fuel starvation. The



engine was still running very low (near idle) and was not responding to throttle input. The carburetor heating was switched ON and OFF to eliminate the possibility of icing. These did not provide any positive result.

The Pilot informed the Engineer of the situation and immediately declared emergency to Kaduna Tower at 1615 h. Thereafter, he sighted and chose a farmland near the only village he could see and force landed the aircraft.

The aircraft travelled about 146m from landing to its final stopping position. The GPS coordinates of the force landing site is 10°47'65"N 007°14'35"E.

The crew exited unhurt and carried out physical inspection of the aircraft. No physical damage was noticed by the crew at the time. There was also no other damage to any property.

According to the pilot "while at Sabon Birni we got a call through the phone of one of the village leaders that shootings were going on targeting the airplane. They later called back and said the airplane was set ablaze supposedly by the Rustlers or so".



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	Nil
Others	2	Nil	2	Nil

1.3 Damage to Aircraft

There was no visible damage to the aircraft after the forced landing.



Fig 1: The aircraft on the farmland after the forced landing

1.4 Other Damage

Not Applicable.

1.5 Personnel Information

1.5.1 Captain

Nationality: Nigerian

Age: 48 years



Licence Type: Air Transport Pilot Licence

Validity: 22nd November, 2022

Aircraft Ratings: TB-9, TB-20, B-58, BA-23, EMB 110, TBM 700, ERJ
135/145

Medical Certificate: Class I Valid till 6th May, 2019

Total Flying Time: 4180 h

Total on Type: 2826 h

Total on Type (PIC):2732 h

Last 90 Days: 34 h

Last 28 Days: 18 h

Last 7 days: 0.8h

Last 24 Hours: Nil

The Pilot is a flight instructor with NCAT and carries out other flight activities as may be assigned by the College.

1.5.2Engineer

Nationality: Nigerian

Age: 50



Licence Type: Airframe and Power Plant Licence

Validity: 12th January, 2022

Aircraft Ratings: TB9

This Engineer has been working with the college for 30 years. He was onboard for the test flight.

1.6 Aircraft Information

Type: Tampico Club (TB-9)

Manufacturer: Daher Socata, France

Date of Manufacture: 29 July, 1996

Serial No: 1768

Owner/Operator: Nigerian College of Aviation
Technology

Nationality and Registration Marks: 5N-CBP

Certificate of Airworthiness: 14th August, 2019

Certificate of Insurance: 9th March, 2019

Certificate of Registration: 30th April, 2007



Noise Certificate: 3rd October, 2007
Total Airframe Time: 4453

The aircraft was involved in a hard-landing/propeller ground-strike incidence on the 28th November, 2018. A work package covering engine and propeller change with hard-landing inspection was carried out on the 14th February, 2019. In addition, 100hrs inspection, based on calendar time, was carried out on the 18th February, 2019. A test flight to ascertain air-worthiness of the aircraft was scheduled for 1st March, 2019.

1.6.2 Power Plant

Manufacturer: Lycoming Textron, USA
Engine Model: Lycoming 0-320-D2A
Serial No.: 1989
Time Since New: 1990hrs 27mins
Type of Fuel Used: AVGAS

The engine was previously installed on a Tampico TB-9, with nationality and registration marks 5N-CAK. On 7th November, 2015 it was removed for overhaul. The overhaul was carried out at Scan Aviation, Denmark on the 11th October, 2018.



1.7 Meteorological Information

The following weather conditions were prevalent as reported by Kaduna Control Tower.

AT 1400 UTC

Wind:	CALM
Visibility:	10km
Weather:	NIL
Cloud:	NSC
Temperature/Dew Point:	33/16
QNH:	1024

1.8 Aids to Navigation

Not Applicable

1.9 Communications

There was good communication between the Kaduna Control Tower and the aircraft during the test flight.



1.10 Aerodrome Information

Not Applicable

1.11 Flight Recorders

The aircraft was not equipped with a Cockpit Voice Recorder (CVR) or Flight Data Recorder (FDR). Neither of these recorders is required by the Nigerian Civil Aviation Regulation.

1.12 Wreckage and Impact Information

Not Applicable

1.13 Medical and Pathological Information

No medical or pathological tests were conducted.

1.14 Fire

There was no pre or post impact fire.



1.15 Survival Aspect

The incident was survivable as the integrity of the cockpit was not compromised. When the aircraft finally stopped, the Pilot and the Engineer disembarked unassisted.

1.16 Test and Research

Not Applicable.

1.17 Organizational and Management Information

NCAT is an Approved Training Organization (ATO) located at Zaria, Kaduna state. The approval is in accordance with the requirements of Nigerian Civil Aviation Regulations (Nig.CARs) 2009. The college has a fleet consisting of eight Tampico TB 9, five Trinidad TB 20, three Beach Baron B58, one TBM 850, one Diamond DA 42 NG, one Diamond DA 40 D and two Bell 206 L4 helicopters. NCAT has in house Flight Maintenance Department (FMD) that maintains its fleet. The department operates under the Approved Training Organization to carry out support for the Flying School by carrying maintenance using individual licenses and ratings of engineers in the department.

1.18 Additional Information

1.18.1 Post Incident Occurrence

The aircraft was set a result of shootings by Rustlers.



Figure 2: Side view of the burnt aircraft



Figure 3: Front view of the burnt aircraft



Figure 4: The burnt engine recovered from the aircraft

**1.18.2 Extract from Socata TB 9 Model Maintenance Manual
(RUN-UPS AND TEST FLIGHTS)**

A. Major test flight

A major test flight shall be performed:

- after each major inspection*
- after a significant repair following an incident*
- after aircraft disassembly and assembly*



B. Minor test flight

A minor test flight is limited to aircraft component(s) modified and shall be performed:

-when the origin of a defect has not been detected or when the correct operation of a system has not been confirmed during ground tests.

-after wing or control surface replacement

-after engine or propeller replacement

-after modification of radio navigation or radio communication system, particularly after new antenna installation.

2.0 Initial Findings

1. The Pilot is a flight instructor with NCAT and also carries out other flight operations as may be assigned.
2. The Pilot conducted flight inspection before the flight and the aircraft was found serviceable.
3. The maximum static power recorded during the engine run was 2450rpm.
4. The test flight proceeded to Kaduna for the purpose of conducting VOR/ILS approach and landing.
5. The Pilot observed that the engine was not responding when he advanced throttle to cruise power.
6. The crew reported engine failure to ATC at Kaduna International Airport.
7. The pilot declared emergency less than 8miles to Kaduna VOR (KDA).
8. The occupants of the aircraft exited unhurt after the forced landing.
9. An inspection was carried out after forced landing but no physical damage was found.
10. The aircraft was set a result of shootings by Rustlers
11. The engine sustained fire damage
12. The accident occurred at Ruma village, Sabon–Birni in Birnin Gwari LGA, Kaduna State, which is 7.5nm NW of Kaduna Airport.
13. The aircraft had a history of hard landing/propeller strike on the 28th November 2018, and AIB was not notified.



14. The propeller and engine were changed after the hard landing.
15. The incident occurred during a test flight after engine installation.

3.0 Conclusion

The investigation is closed as there is no substantial information from the wreckage as a result of fire outrage due gun shots sustained by the aircraft after forced landing.

4.0 Recommendation

The Bureau should cede the investigation for Criminal Investigation to the Authorities concerned.