



AIB BULLETIN

NCAT/2013/12/10-002

Accident Investigation Bureau

Report on the Incident involving a Tampico Club TB-9 Aircraft with nationality and registration marks 5N-CBG operated by Nigerian College of Aviation Technology (NCAT) Zaria which occurred at Zaria Aerodrome, Kaduna State, Nigeria On 10th December, 2013.



This report was produced by the Accident Investigation Bureau Nigeria. The report is based on the investigation carried out by the Bureau, in accordance with Nigerian Civil Aviation Act 2006 and Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2019.

INCIDENT

Aircraft type:	Tampico TB-9
Nationality and registration marks:	5N-CBG
Number and type of engines:	1 Lycoming O-320-D2A Piston Engine
Year of manufacture:	1998
Registered owner:	Nigerian College of Aviation Technology (NCAT), Zaria
Operator:	NCAT, Zaria
Manufacturer:	DAHER SOCATA
Serial number:	1855
Date and Time of incident:	10th December, 2013 at 1323 h Local Time
Location:	Zaria Aerodrome, Kaduna State, Nigeria. Coordinates 11°07'52.41"N, 41°08'34"E at an elevation of 655m
Type of flight:	Training
Aircraft information:	The aircraft was manufacture by DAHER SOCATA France, in 1998 and is certified for a single pilot operation. The aircraft had accumulated 3395.24 airframe hours when the incident occurred.
Persons on board:	Crew – 1, Passenger—one
Injuries:	Crew – None, Passenger – None
Nature of damage:	The aircraft sustained damage to the propeller, nose landing gear, nose wheel tyre, engine and engine firewall
Pilot Licence:	Student Pilot Licence (SPL)
Pilot age:	23 years

Flying experience:	33:55 h
Type of fuel used:	Avgas

SYNOPSIS

Accident Investigation Bureau (AIB) was notified by Nigerian College of Aviation Technology (NCAT) Zaria of the serious incident involving a Tampico TB-9 aircraft, with nationality and registration marks 5N-CBG; belonging to NCAT, which occurred at Zaria Aerodrome.

On 10th December, 2013 a TB-9 trainer aircraft, registered 5N-CBG, owned and operated by Nigerian College of Aviation Technology (NCAT) Zaria, with a Student Pilot (SP) as a Pilot in command was on a second solo flight at Zaria Aerodrome.

While on approach for a touch and go exercise, the aircraft ballooned. The SP lowered the aircraft nose to overcome the ballooning effect; in the process the nose landing gear hit the runway and the nose wheel tyre burst.

The SP was taken to the college's clinic for examination and was certified fit. The incident occurred in day time.

One Safety Recommendation was made.

HISTORY OF THE FLIGHT

On 10th December 2013 at 13:00 h, a TB-9 aircraft with nationality and registration marks 5N-CBG, owned and operated by the Nigerian College of Aviation Technology (NCAT) Zaria, took off from runway 06 with a Student Pilot (SP) as pilot in command for a “Touch and Go” exercise.

The SP had earlier conducted dual circuit and landing exercise with a Flight Instructor (FI). He was thereafter, cleared to conduct three circuit and landing while the instructor was observing from the Control Tower (CT).

While on approach for the second touch and go exercise, the aircraft ballooned after the flare manoeuvre. The SP lowered the aircraft nose to overcome the ballooning effect; in the process the nose landing gear hit the runway and the nose wheel tyre burst. The propeller blade tips also struck the runway surface.

The SP was taken to the college’s clinic for examination and was certified fit. The incident occurred at 13:23 h in day time.

DAMAGE TO AIRCRAFT

The aircraft was substantially damaged. The nose wheel tyre burst and the propeller blade tips struck the runway surface.



Figure 1: Burst nose wheel tyre



Figure 2: Bent propeller blade tip

ANALYSIS

The aircraft was maintained in accordance with NCAT's approved maintenance program. There was no reported pre-incident failures or malfunctions on the aircraft structures, power plant and systems.

According to the student record book, the SP had enough rest before the flight.

Ballooning during round out occurs when a pilot misjudges the rate of sink during a landing and thinks the aircraft is descending faster than it should; there is a tendency to increase the pitch attitude and angle of attack too rapidly. This not only stops the descent, but actually starts the aircraft climbing.

However, a little change in stick pressure is all that was needed to get rid of just enough pitch attitude (by lowering the angle of attack) to arrest the ballooning and stop it from getting worse. In addition, when ballooning is excessive, a "Go-Around" should be executed immediately; and an attempt should not be made to salvage the landing.

The SP lowered the nose with a force that made the nose gear to land first which resulted to the occurrence.

FINDINGS

The investigation revealed the following:

1. The aircraft had a valid certificate of airworthiness (C of A).
2. The SP had a valid license and medical certificate.
3. The SP had flown dual with the Flight Instructor and was cleared for second supervised solo flight.
4. The aircraft ballooned during the second touch and go landing flare.
5. There was improper aircraft attitude at touch-down.
6. A Go-Around was not initiated when the ballooning became excessive.
7. The aircraft nose wheel tyre burst and the propeller blade tips were bent.

SAFETY RECOMMENDATION

Safety Recommendation 2020-028

The Nigerian College of Aviation Technology should ensure that Flight Instructors emphasize to the Student Pilots the need for a Go-Around whenever excessive ballooning/bouncing occurs during landing exercises.