REPUBLIC OF KENYA

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AIR ACCIDENT INVESTIGATION

FACTUAL INCIDENT REPORT 5Y-BZK 26.04.2013

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CIVIL AIRCRAFT INCIDENT REPORT

CAV/INC/BZK/13

OPERATOR	:	NAIROBI FLIGHT TRAINING
OWNER	:	SANDSTORM AVIATION LTD
AIRCRAFT	:	CESSNA 152
REGISTRATION	:	5Y-BZK
PLACE	:	NAIROBI NATIONAL PARK
		Co-ordinates 1°20.63'S 36°49.64'E
DATE	:	26 APRIL 2013
TIME	:	0545 HOURS

All times given in this report are Coordinated Universal Time (UTC)

East African Local Time is UTC plus 3 hours.

OBJECTIVE

This report contains factual information which has been determined up to the time of publication. The information in this report is published to inform the aviation industry and the public of the general circumstances of accidents, serious incidents and incidents.

This investigation has been carried out in accordance with *The Kenya Civil Aviation (Aircraft Accident and Incident Investigation) Regulations, 2013 and Annex 13 to the ICAO Convention on International Civil Aviation.*

The objective of the investigation of an accident or incident under these Regulations shall be the prevention of accidents and incidents. It shall not be the purpose of such an investigation to apportion blame or liability.

TABLE OF CONTENTS

ABBREVIATIONS

AAID	:	Air Accident Investigation Division
AMSL	:	Above Mean Sea Level
ATC	:	Air Traffic Control
ATO	:	Approved Training Organization
C of A	:	Certificate of Airworthiness
HKNW	:	ICAO designation for Wilson Airport
ICAO	:	International Civil Aviation Authority
KCAA	:	Kenya Civil Aviation Authority
METARS	:	Meteorology Aerodrome Routine Weather Reports
NFT	:	Nairobi Flight Training
PPL	:	Private Pilot's License

SYNOPSIS

The Air Accident Investigation Division (AAID) was notified of an incident by Wilson Airport Air Traffic Control (ATC) on 26 April 2013 and a response team was dispatched immediately for on-site investigation.

At 0545 hours on 26 April 2013, a Cessna 152 of registration 5Y-BZK made a forced landing at the Nairobi National Park during a routine training flight at the Wilson Airport Local Training Area. There were two persons on board the aircraft – a Flight Instructor and a Student Pilot.

There were no injuries reported as a result of the incident. The aircraft did not sustain any visible damage during the incident.

1. FACTUAL INFORMATION

1.1. History of Flight

On 26 April 2013, the aircraft 5Y-BZK operated by Nairobi Flight Training (NFT) was conducting routine training flight at the Wilson Airport Local Training Area. On board the aircraft were a Student Pilot and a Flight Instructor. According to the Flight Instructor, the Student was on a first solo check-out and had been scheduled to practice take-off, landing and aircraft handling during engine failure. The Student Pilot conducted preflight checks and engine start up was initiated at approximately 0500 hours. The Student Pilot was conducting all the activities of the flight including aircraft control and communication with ATC.

The aircraft was cleared for take-off on runway 14 at 0515 hours. After take-off, the pilot positioned the aircraft downwind 07 and performed a go-around procedure. The pilot again positioned the aircraft downwind 07 and performed a touch-and-go procedure on runway 07. On downwind 07, the instructor initiated an engine failure simulation exercise for the Student Pilot by positioning the throttle lever on Cut-Off position. At this point, the aircraft was at altitude of approximately 500ft above ground level. In the course of the simulation exercise, the Student Pilot inadvertently pulled the mixture lever which resulted in engine shutdown. The crew unsuccessfully attempted to restart the engine but due to the low altitude that they were flying, they decided to make a forced landing at the Park.

The aircraft landed and came to rest at approximately 1670 meters from the threshold of runway 32 at a heading of 225°. The Flight Instructor and

Student Pilot safely evacuated unassisted from the aircraft and reported the occurrence.

1.2. Injuries to persons

Injuries	Crew	Passengers	Others
Fatal	-	-	-
Serious	-	-	-
None	2	-	

1.3. Damage to Aircraft

The aircraft did not sustain any visible damage as a result of this incident.

1.4. Other damage

None

1.5. Personnel Information

The Flight Instructor joined NFT in 2010 as an instructor. In 2011, he was promoted to be the Chief Flight Instructor for the Flying School. At the time of incident, the instructor had over 2000 total flying hours. The instructor had flown a total of 34 hours in the last thirty days and 470 hours in the last six months prior to the incident.

The Student Pilot joined NFT in February 2013. She was concurrently doing her Private Pilot's License (PPL) Ground School and Flying. During the incident flight, the Student Pilot was on her first solo check-out. She had accumulated a total of 17 flight training hours.

1.6. Aircraft Information

Manufacturer	Cessna Aircraft Company
Type	Cessna 152
Year of Manufacture	1979
Aircraft Serial Number	15283431
Number and type of engines	1 Lycoming O-235-L2C
Certificate of Airworthiness (C of A)	C of A № 2462 was initially issued on 21 September 2011. The last renewal was done on 26 September 2012. The C of A was valid for one year until 27

September 2013

Category Commercial Air Transport (Passengers)

Engine ground run was performed after the incident and all the parameters were satisfactory. The fuel on the left wing tank was full while that on the right wing tank was three quarters full. Fuel samples from both tanks were visually checked for water and sediment and none was found. The aircraft was generally in a satisfactory condition and none of its systems was considered a factor in this investigation.

There was a checklist for engine failure simulation, but it did not specify the altitude at which the simulation was to be done.

1.7. Aerodrome Information

The training flights conducted by the aircraft originated from Wilson Airport. Wilson Airport (ICAO designation HKNW) is located five kilometers south of Nairobi and serves both domestic and international traffic. It is located at latitude 01° 19' 18.19" S and longitude 036° 48' 53.40" E at an elevation of 5546 feet AMSL. The aerodrome operating hours are from 0330 to 1730. The airport has four asphalt runways 07/25 (4800×79 ft), 14/32 (5118×75 ft). The airport is not equipped with ILS equipment.

1.8. Wreckage and Impact Information

The aircraft structure remained generally intact after the incident with no resultant visible damage. After the forced landing, the aircraft came to rest approximately 1670 meters from the threshold of runway 32 facing a

heading of 225°. The exact incident location was at the coordinates 1°20.63'S 36°49.64'E.

2. ANALYSIS

Both the Student and Instructor confirmed that the Student inadvertently pulled out the Mixture handle during an engine failure simulation exercise for in preparation for first solo. This resulted in engine shut down and attempts to restart it were unsuccessful. The aircraft was in a low altitude of 500 feet, which also did not allow for further attempts at restarting. The Instructor, therefore, decided to make a forced landing at the Nairobi National Park.

Engine ground run was performed at the site of incident to verify the performance of the engine. All parameters and tests were found satisfactory. Fuel samples from the aircraft fuel tanks were verified and found satisfactory. The aircraft was generally not considered a factor in this investigation.

NFT conducted both Flying Training and Ground School was concurrently for its students. It is, therefore, likely that dome students may not have grasped well the theoretical concepts of flying prior to actual flying.

The engine failure simulation was conducted at an altitude of 500 feet above the ground. The checklist for engine failure simulation did not prescribe the right altitude at which the simulation was to be conducted.

3. CONCLUSIONS

Significant Findings

1. The Student Pilot inadvertently pulled out the Mixture handle, thereby shutting down the engine.

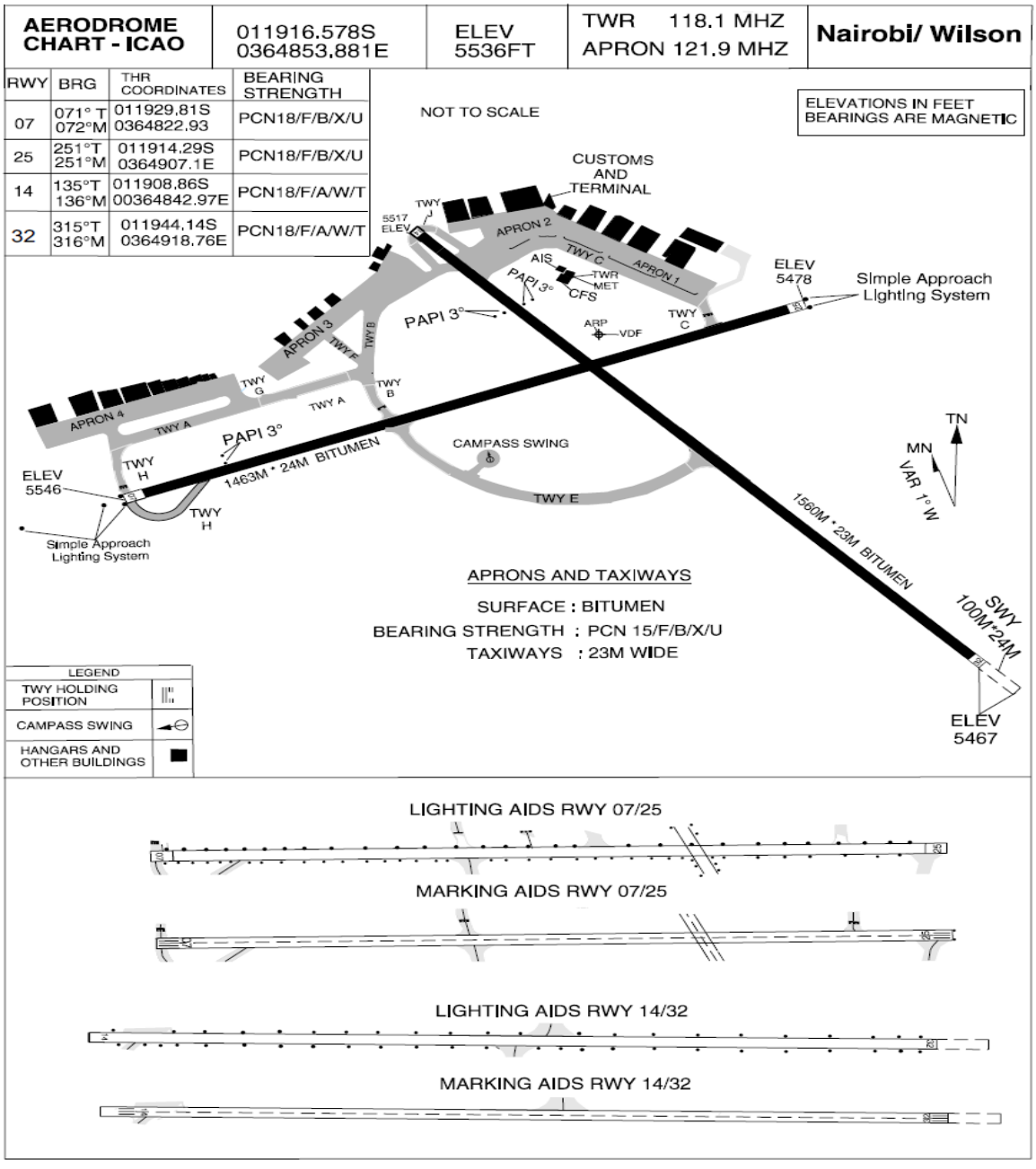
2. The Flight Instructor was qualified and experienced for the flight.
3. The engine failure simulation exercise was conducted at a low altitude of 500 feet above the ground level.
4. The engine failure simulation checklist did not specify the right altitude at which engine failure simulations were to be done. Everything was left to be at the discretion of the Instructor.

4. SAFETY RECOMMENDATIONS

1. KCAA to consider reviewing the PPL training curriculum used by ATO's either the Ground Pilot Training to be mastered or completed by students before commencing practical flight training OR both flight training and ground training to be done in tandem to comprehend each other.

APPENDICES

Appendix I – Wilson Airport Chart



Appendix III - Photographs