

THE REPUBLIC OF KENYA



**MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING,
URBAN DEVELOPMENT AND PUBLIC WORKS**

STATE DEPARTMENT FOR TRANSPORT

AIRCRAFT ACCIDENT INVESTIGATION DEPARTMENT

PRELIMINARY AIRCRAFT ACCIDENT REPORT 11/2020

REPORT ON THE CESSNA 172

REGISTRATION 5Y-KAS

AT CARAGAI AIRSTRIP LAIKIPIA

ON 27 NOVEMBER, 2020

PARTICULARS OF THE CESSNA 172

OPERATOR/OWNER	:	Private
GYROPLANETYPE/ MANUFACTURER	:	Cessna
YEAR OF MANUFACTURE	:	1979
REGISTRATION MARK	:	5Y-KAS
SERIAL NUMBER	:	172-3164
DATE OF REGISTRATION	:	22 May 2007
NUMBER AND TYPE OF ENGINE	:	One-Continental
ENGINE SERIAL NUMBER	:	TB
DATE OF OCCURRENCE	:	27 November, 2020
TIME OF OCCURRENCE	:	12:40pm local time
LOCATION OF OCCURRENCE	:	Laragai House Airstrip Laikipia
TYPE OF FLIGHT	:	Private
PHASE OF FLIGHT	:	Landing
PERSONS ONBOARD	:	2
INJURIES	:	Serious
NATURE OF DAMAGE	:	Destroyed
CATEGORY OF OCCURRENCE	:	Accident
PILOT IN COMMAND (PIC)	:	PPL
PIC'S FLYING EXPERIENCE	:	820 hours

OBJECTIVE

This report contains factual information that 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.

The information contained in this report is derived from the data collected during the Investigation of the Accident.

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ABBREVIATIONS

HKAZ	-	Tatu Airstrip
ICAO	-	International Civil Aviation Organization
KCAA	-	Kenya Civil Aviation Authority
LBS	-	Pounds
NCH	-	Nanyuki Cottage Hospital
NM	-	Nautical miles
PPL	-	Private Pilot License
VHF	-	Very High Frequency

SYNOPSIS

On 27th November, 2020, the Air Accident Investigation unit at the Ministry of Transport, Infrastructure, Urban Development and Public Works was notified of an accident involving a privately owned Cessna 172 type of aircraft, registration 5Y-KAS on a private operation at 12.40pm local time at Laragai House Airstrip Liakipia County.

Preliminary information obtained indicated that there was a couple onboard the aircraft. The two were travelling from Nairobi with their own aircraft for three nights at Laragai house. They were expected to arrive at Laragai House on same day for 3 days stay on 27th November, 2020 at 12.40 am local time. Prior to their arrival the proprietor had briefed the pilot about the condition of the airstrip including the common wind direction and made arrangement to receive them on arrival. On arrival, the pilot came in and approached the runway from the northerly direction and proceeded to land with a tail-wind. He floated for a while and touched the runway almost near end of the runway. Subsequently he realized he could not make it and decided to go-round unfortunately he could not clear some trees at the end of the runway.

The aircraft landed in a thicket and the pilot forced open the passenger door as he attempted to get his wife out. There was quick response from the eye witness from Laragai House who had witnessed the accident happen. They pulled pilot and his wife out of the wreckage. They were moved away from the scene of the accident. The entire evacuation from the point of impact to getting out took no more than 10 minutes.

The couple suffered serious injuries and the aircraft was substantially damaged.

Investigation is ongoing to establish cause of the accident.

1. FACTUAL INFORMATION

1.1 History of the flight

On 27th November, 2020, the Air Accident Investigation unit at the Ministry of Transport, Infrastructure, Urban Development and Public Works was notified of an accident involving a privately owned Cessna 172 type of aircraft, registration 5Y-KAS on a private operation at 12.40pm local time at Laragai House Airstrip Liakipia County.

According to the preliminary information obtained from one of the eye witness, the pilot and his spouse were expected to arrive at Laragai House on same day for 3 days stay on 27th November, 2020. Prior to their arrival the proprietor had briefed the pilot about the condition of the airstrip including the common wind direction and made arrangement to receive them on arrival. On arrival, the pilot came in and approached the runway from the northerly direction and proceeded to land with a tail-wind. He floated for a while and touched the runway almost near end of the runway. Subsequently he realized he could not make it and decided to go-round unfortunately he could not clear some trees at the end of the runway.

According to the pilot statement he took-off from Tatu Airstrip Nairobi (HKAZ) at 11.40am (local time) destination for Laragai House on Borana ranch, Laikipia with his wife. There were 70 pounds (LBS) of luggage on board and the aircraft was due to remain at Laragi for 3 nights. He had 46 gallons of fuel and all up weight was 2379 pounds which was well within operating limits. The weather and visibility were good.

The flight was uneventful as he approached Laragai airstrip at 12.40pm from the north. Indicated airspeed on approach was 65 knots and the wind was varying from north to east. The aircraft floated for some time before touching down however he realised that he was rolling too fast and running out of the runway and elected to go around to attempt the landing again, unfortunately he was unable to gain sufficient speed and height to clear a tree at the end of the runway which he struck.

This then started a series of events where the aircraft skewed sideways as a result of the impact from the first tree and the wings struck several other trees, twisting the aircraft around and it eventually came to a standstill facing the opposite direction from the landing and pointing up the slope. The pilot was still conscious the entire time and tried to control the aircraft as much as possible but there was little he could do to steer the plane except try and cushion the impact as much as possible.

The aircraft landed in a thicket and the pilot forced open the passenger door as he attempted to get his wife out. There was quick response from the eye witness from Laragai House who had witnessed the accident happen. They pulled pilot and his wife out of the wreckage. They were moved away from the scene of the accident. The entire evacuation from the point of impact to getting out took no more than 10 minutes.

The hostess of the Laragai house and a friend brought a vehicle to the scene and called for airlift to Nanyuki Cottage Hospital. They were later airlifted to the hospital where they were admitted. Medical examination revealed that the pilot's wife had severe bruising on her face and body and a broken wrist which was then put into a splint. The pilot had a broken tibia just below the knee which was subsequently operated.

1.2 Injuries to Persons

Table 1: Injury chart

Injuries	Crew	Passenger	Others	Total
Fatal	0	0	0	0
Serious	1	1	0	2
Minor/none	0	0	0	0
Total	1	1	0	2

1.3. Damage to aircraft

Destroyed

1.4 Other Damages

Nil

1.5 Personnel Information

The pilot-in-command was 68 year old Kenyan citizen. He held a private pilot license, valid until 14th June 2021. By the time of the accident he had a total of 820 hours with 750 hours as a pilot-in-command. He had a total of 680 hours on the type (C172) as a pilot-in-command.

1.6 Aircraft Information

1.6.1. General Information

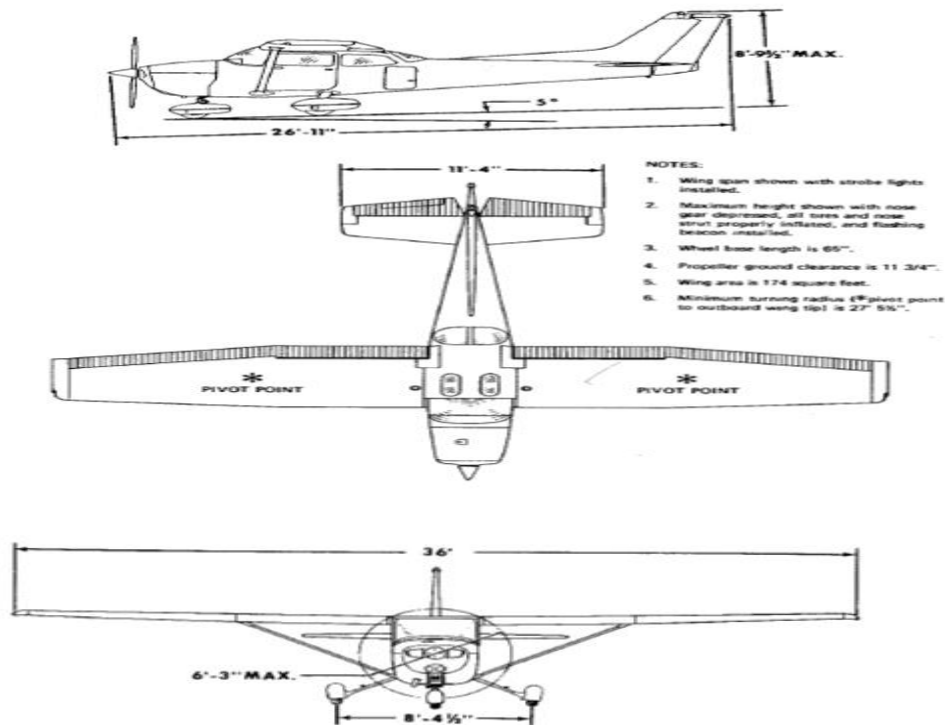


Figure 1: Drawing showing general view of Cessna 172

The Cessna 172 serial number 172-3164 was registered in Kenya on 22 May 2007 on a private ownership. It had been issued with a valid certificate of airworthiness expiring 17th June 2021. Preliminary information obtained indicated that the aircraft was maintained and issued with a certificate back to service on 17th June 2020 by Aircraft Engineering Services Ltd.

1.6.2. Technical Data

Table 2: Cessna 172 Technical Data

Size	26' X 36'X8.9'
Empty weight	1454LBS
MTOW	2400LBS
Engine	One-Lycoming (O-320-D2J)
Take-off distance (to clear 50'' obstacle)	584M
Landing distance (to clear 50'' obstacle)	420M
Maximum range	140NM
Ceiling	13000ft
Normal Cruise speed	111km/h
Fuel capacity	42 Gal/LBS

1.7. Meteorological Information.

To be notified

1.8 Aids to Navigation

N/A

1.9 Communication

The aircraft was equipped with VHF radio

1.10 Aerodrome Information

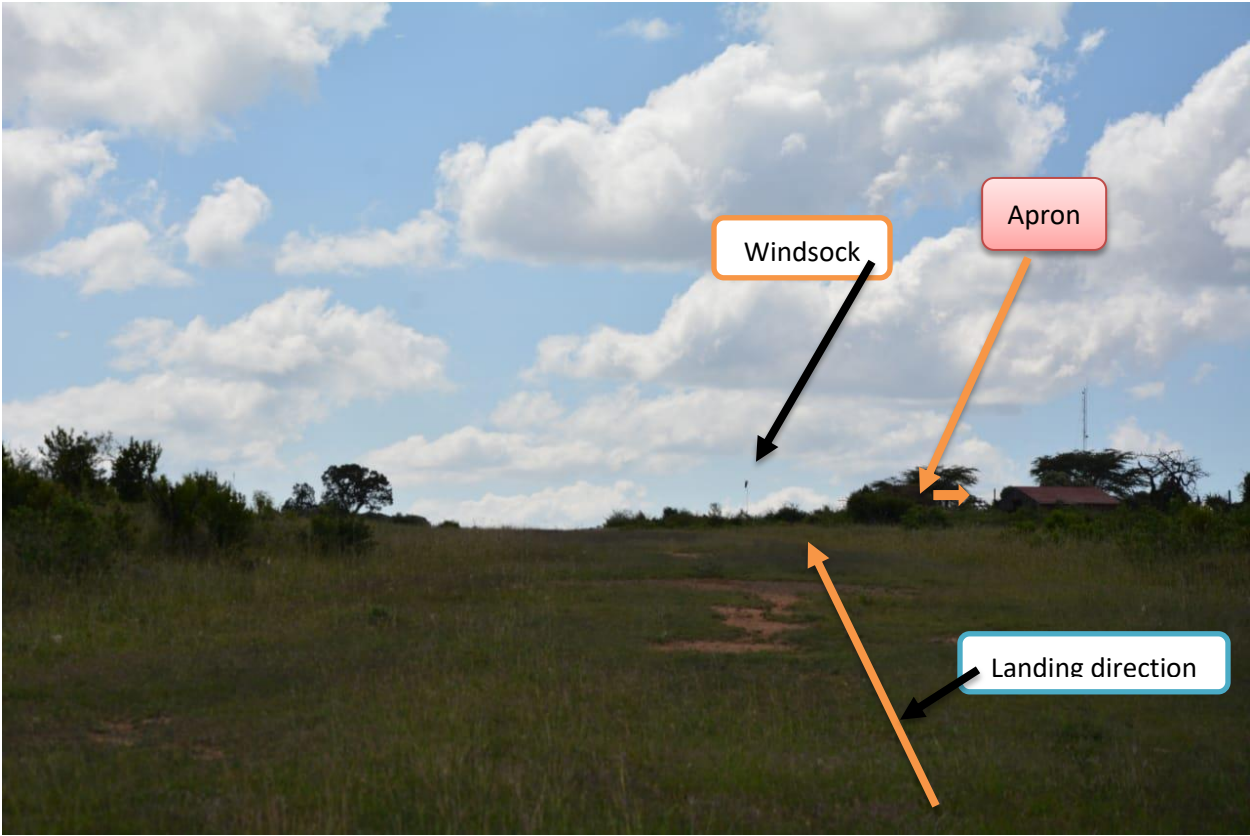


Figure 2: Photograph showing the apron and windsock of Laragai airstrip



Figure 3: Photograph showing the pilot’s landing direction at Laragai airstrip

Laragai airstrip is a grass runway located at N 00°16’11” E 37°19’44”. It is 45 minute flight from Nairobi Wilson. It has two runways 18/36 and 36/18. It measures 1200m length and 25m width. it has a common northerly wind flow direction. Most landingS and take-off is from the south i.e on runway 36.

1.11 Flight Recorders

N/A

1.12. Wreckage and Impact Information

There was extensive damage on the aircraft except the tail. The left wing got broken and extensively dented. The interior part of the aircraft was relatively intact. Both passenger doors also got broken. The front wheel collapsed on impact and both landing gears remained intact.



Figure 4: Photograph showing first point of impact with a tree after attempted go-round



Figure 5: Location of the wreckage of the aircraft after impact



Figure 6: Photograph showing aircraft empennage section after impact



Figure 7: Photograph showing the tail section of the aircraft after impact



Figure 8: Photograph showing the avionics section of the aircraft after impact

1.13 Medical and Pathological Information

Not applicable

1.14 Fire

There was no fire after impact.

1.15. Survival Aspects

The accident was survivable

1.16. Tests and Research.

Not applicable

1.17. Organization and Management Information

To be notified

1.18 Additional Information.

Not applicable

1.19 Useful or Effective Investigation Techniques

Not applicable

2. ANALYSIS

N/A

3. CONCLUSIONS

Investigation is ongoing to establish cause of the accident

Martyn Lunani

CHIEF INVESTIGATOR OF ACCIDENTS

29/11/2020