

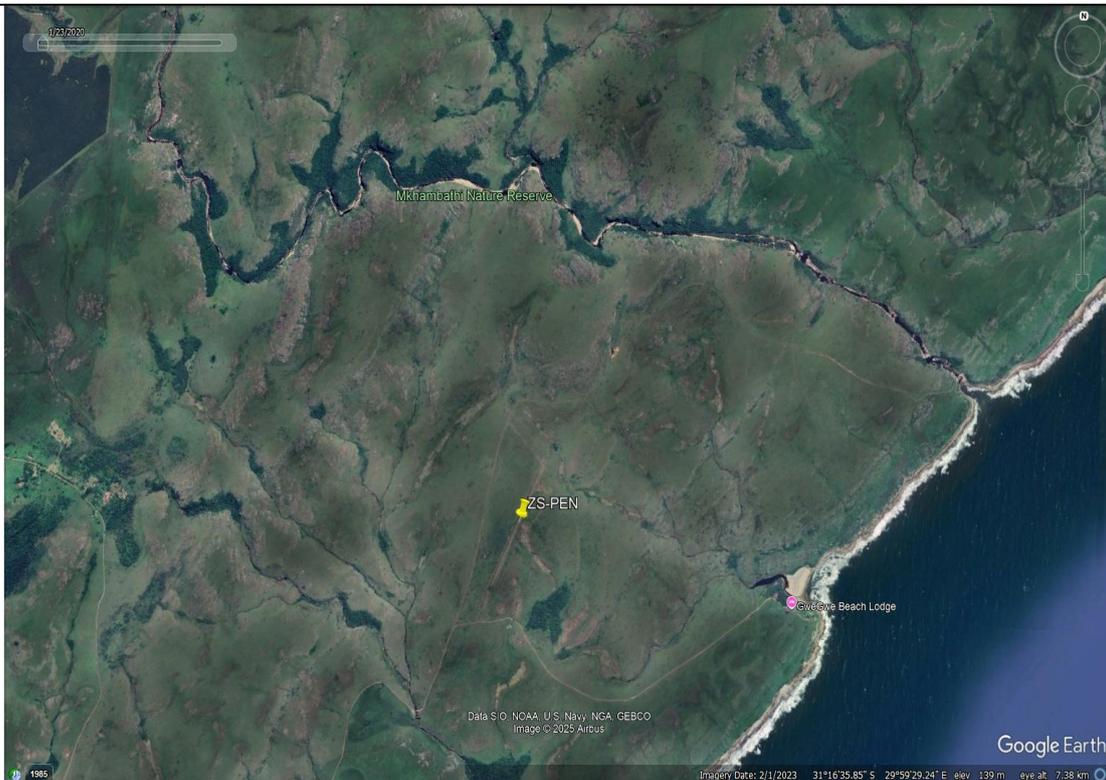


## LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

<b>Reference Number</b>	CA18/3/2/1512						
<b>Classification</b>	Serious Incident	<b>Date</b>	13 October 2025		<b>Time</b>	0813Z	
<b>Type of Operation</b>	Private (Part 91)						
<b>Location</b>							
Place of Departure	Virginia Aerodrome (FAVG), KwaZulu-Natal Province	Place of Intended Landing	Mkambati Airfield, Eastern Cape Province				
Place of Occurrence	Runway 03 at Mkambati Airfield, Eastern Cape Province						
GPS Co-ordinates	Latitude	31°17'07.40"S	Longitude	029°59'17.50" E	Elevation	360ft	
<b>Aircraft Information</b>							
Registration	ZS-PEN						
Make; Model; S/N	Cessna 210M Centurion II (Serial Number: 210-62204)						
Damage to Aircraft	None		Total Aircraft Hours	5 202.8			
<b>Pilot-in-command</b>							
Licence Type	Commercial Pilot Licence (CPL)		Gender	Male		Age	27
Licence Valid	Yes	Total Hours	1 110.0		Total Hours on Type	20.4	
Total Hours 30 Days	5.5		Total Flying on Type Past 90 Days	5.5			
<b>People On-board</b>	1 + 3	<b>Injuries</b>	0	<b>Fatalities</b>	0	<b>Other (on ground)</b>	0
<b>What Happened</b>							
<p>On Monday morning, 13 October 2025, a pilot and three passengers on-board a Cessna 210M Centurion II aircraft with registration ZS-PEN were on a private flight from Virginia Aerodrome (FAVG) in KwaZulu-Natal province with the intention to land at Mkambati Airfield in Eastern Cape province when the serious incident occurred. The flight was conducted during the day under visual meteorological conditions (VMC) in accordance with (IAW) the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011, as amended.</p> <p>The pilot stated that the aircraft had 330 litres (L) of Avgas 100LL in the tanks during the pre-flight inspection. At approximately 0706Z, the aircraft took off from FAVG and climbed to 1 000 feet (ft) above ground level (AGL), cruising at a speed of 130 knots (kts). The flight segments to Mkambati Airfield were uneventful. The pilot had adorned the Light Speed 3 Premium headsets. Upon arrival at the airfield which is unmanned, the pilot flew overhead and observed the windsock that indicated the wind to be blowing north-east. The wind direction favoured Runway 03 with 050° heading. The pilot selected the landing gear lever to the down position and 10° flaps. The landing gear motor continued to operate for approximately 15 seconds after the landing gears had stopped extending to the down position.</p>							

The single green indication light, which was supposed to confirm the gear to be down and locked, did not illuminate. Shortly afterwards, the gear circuit breaker (CB) tripped, thereby, disabling the landing gear selection to down and locked position. The pilot suspected the gear motor malfunction and decided to fly away from the airfield to assess the situation. The pilot then pushed in (reset) the gear CB and selected the landing gear switch to the up position. The landing gear retracted normally, and the gear up indication light illuminated. The pilot then selected the gear lever to the down position. The landing gear extended but the down and locked indication light did not illuminate. The gear motor continued to operate, and the CB tripped for the second time. The pilot then followed the emergency landing gear extension procedure as stipulated in the Pilot's Operating Handbook (POH) and tried to extend the landing gear manually using the hand-handle, but without success. The pilot reported that the hand-handle felt stiff and immovable, therefore, he re-stowed it. After a few minutes, the pilot pulled the hand-handle for the second time and tried to manually extend the landing gear, but the result was the same. There was still no green indication light confirming the gear was in a down and locked position. The pilot then called the aircraft maintenance engineer (AME) who was on the ground at Mkambati Airfield using the mobile phone; he informed him of his predicament. He then notified the AME that he will be executing a low-level fly past overhead the airfield and requested that the AME visually check if all three landing gears were in the down position. After checking, the AME stated that all three landing gears appeared to be fully extended. The pilot also checked through the left-side window to confirm if the main landing gear was in an extended position; however, the down and locked indication light did not illuminate.

The pilot flew a circuit and aimed to touch down approximately 300 metres (m) down Runway 03 threshold (at the smoothest section). During the approach to land, the pilot selected 30° flaps; he then maintained an airspeed of 65 knots (kts). The aural unsafe landing gear warning horn sounded. The main wheels touched down first and, during the landing roll, the pilot applied full back pressure on the elevator controls to hold the nose wheel off the runway for as long as possible. After about 100m, the nose wheel contacted the runway, and the pilot felt the aircraft's nose drop as the propeller blades struck the ground. The pilot immediately pulled the mixture control lever to idle cut-off position. The aircraft skidded on the ground with the lower engine cowling scraping the runway before the aircraft came to a complete stop, approximately 30m from the first point of contact. The pilot then raised the flaps to provide a clear evacuation path for the passengers. After raising the flaps, the pilot completed the engine shutdown checks, switched off the battery and moved the fuel selector to the off position; he then assisted the passengers to disembark from the aircraft. The aircraft sustained substantial damage; no person was injured.



**Figure 1:** Mkhambathi Airfield and the approximate position of the serious incident site indicated by a yellow pin. (Source: Google Earth)



**Figure 2:** The aircraft at the serious incident site and the witness marks of the propeller blades (yellow arrows). (Source: Pilot)



**Figure 3:** The front view of the aircraft at the serious incident site. (Source: Pilot)

#### Aircraft Description (Source: Pilot's Operating Handbook)

*The Cessna 210M Centurion II is a high-wing, single-engine aircraft, with seating capacity of up to six people. The aircraft may be flown from the left or right seat. The aircraft is powered by a fuel-injected Continental TSIO-520-R9B piston engine driving a three-bladed, constant-speed Hartzell PHC-J3YF-1RF propeller. The aircraft landing gear is raised and lowered by hydraulic actuators, one for each leg, hydraulic pressure is generated by an electrically powered and controlled pump assembly with an integral reservoir. The pump motor is activated by a pressure switch in the pump delivery line; this switch should close, to start the pump, when the pressure in this line falls to about 1000 pounds per square inch (psi) and opens, to stop the pump, when the pressure rises above 1500 psi. The electrical power to the system is supplied through two circuit breakers (CBs), one for the indication and control circuits (5 Amp) and the other for the pump motor (30 Amp). Whenever the battery master switch is ON and the two CBs are made, the pump unit operates automatically, controlled by the pressure switch and the landing gear position selector; if either circuit breaker is open, the pump unit will not operate. The landing gear position selector in the cockpit is a hydraulic changeover valve and, selecting landing gear UP or DOWN, connects the pressure delivery line from the pump unit to the appropriate side of each of the three landing gear actuators and the two main landing gear down lock actuators; the nose leg down lock is incorporated into its retraction actuator. The gear is held in the retracted position by residual hydraulic pressure when the gear is selected UP. Whichever position the gear is selected to, the pump will start to drive the gear towards that position whenever the hydraulic pressure drops below 1000 psi. The landing gear indication system on aircraft of this build standard consists of a single green light to indicate that all landing gears are locked down, and an amber light to indicate all gears are fully up. These lights illuminate when the appropriate microswitches on all three legs are made. When the gear is in transit or at least one leg is not at a limit position, there is no indication light.*

*There is also a warning horn which should sound if the landing gear is not fully locked down and the throttle is retarded beyond a pre-determined low-power position.*

#### Follow-up with the Aircraft Recovery Team

The recovery team, which comprised aircraft maintenance engineers (AMEs), was interviewed. The team stated that when they arrived at the serious incident site, the landing gear lever was in the down position, the nose gear had collapsed, and the main landing gears were extended and locked into position. The hydraulic reservoir contained sufficient MIL-H-5606 hydraulic fluid. No evidence of hydraulic leak was observed on the hydraulic system (components and pipes). To clear the aircraft from the runway, the nose of the aircraft was lifted and the collapsed nose landing gear was straightened up and locked into position. The battery switch was turned on and the gear down and locked indication light illuminated in the cockpit. No obvious damage was identified on the nose gear down lock pins during the serious incident inspection. Fuel was drained from the wing tanks and, later, the empennage and wings were removed. This action enabled the AMEs to load the aircraft onto the trailer before transporting it to the aircraft maintenance organisation (AMO) at Wonderboom Aerodrome (FAWB) in Gauteng province.

The investigation team found that the aircraft was operated within its weight and balance limits. The SACAA form CA-12-13 completed by the pilot indicated the calculated aircraft landing weight (at the time) as 270 kilograms (kg) and that the aircraft, during the final approach, was flown with the landing reference speed for a certified maximum landing weight of 1 727 kilogram (kg).

#### Engineering Investigation

On Friday morning, 24 October 2025, the investigation team drove to the AMO facility where the aircraft was stored. The aircraft was placed on jacks (see Figure 5) and visual inspection of the landing gear and wheel-well area revealed nothing abnormal. External power was connected to the aircraft fuselage, and the ignition was turned on. Multiple retraction and extension checks which included inspection of the landing gear warning system were conducted IAW the aircraft maintenance manual (AMM); no faults were found. In addition, the landing gear unsafe warning system operated normal IAW the AMM. Each time the landing gear lever was selected to the down position, it locked into position with no signs of misrigging. The nose gear down lock pins and indication switches showed no signs of anomaly. The landing gear was later retracted and all three gears retracted in their respective wheel-wells. The manual extension test was conducted using the hand-handle and all three landing gears extended and locked into position; therefore, the cause of the nose gear collapse could not be determined.



**Figure 4:** The extended and locked into position nose landing gear.



**Figure 5:** The aircraft on jacks with all three main landing gears in down and locked position.

# Cessna 210 – Checklist

## Let-Down

1. Power ..... As Desired
2. Mixture ..... Lean for Smoothness  
..... Use Full Mixture for Idle Power
3. Cowl Flaps ..... Closed

## Before Landing

1. Fuel Selector ..... Fullest Tank
2. Landing Gear Level ..... DOWN (160 MPH)
3. Landing Gear Light ..... GREEN
4. Mixture ..... RICH
5. Propeller ..... HIGH RPM
6. Wing Flaps ..... DOWN  
.....0°-10° (below 160 MPH)  
.....10°-30° (below 110 MPH)
7. Airspeed ..... 95-105 MPH (flaps retracted)  
.....85-95 MPH (flaps extended)
8. Elevator Trim ..... Adjust

**Figure 6:** An extract of the Cessna 210 checklist.

## Findings

### 1.1 Personnel

- 1.1.1 The pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator (SACAA) on 21 June 2018. The latest CPL was reissued on 26 May 2025 with an expiry date of 31 May 2026.
- 1.1.2 The pilot had a Class 1 medical certificate that was issued on 20 March 2025 with an expiry date of 31 March 2026.
- 1.1.3 The pilot accumulated a total of 1 110.0 flying hours of which 20.4 hours were flown on the aircraft type.
- 1.1.4 The pilot had the aircraft type endorsed on his licence.

## Aircraft

- 1.1.5 The last 50-hour oil check of the aircraft was conducted on 6 June 2025 at 5 771.1 hours. The Certificate of Release to Service (CRS) was issued on 6 June 2025 at 5 771.1 airframe hours with an expiry date of 14 May 2026 or at 5 221.1 airframe hours, whichever comes first.
- 1.1.6 The aircraft maintenance organisation (AMO) which performed the last inspection of the aircraft had an AMO Certificate that was issued on 3 October 2025 with an expiry date of 30 September 2026.
- 1.1.7 The AMO had A, B and C ratings endorsed on their certificate.
- 1.1.8 The aircraft had a valid Certificate of Airworthiness (C of A) that was issued by the Regulator on 31 July 2015 with an expiry date of 31 July 2026.
- 1.1.9 The Certificate of Registration (C of R) was issued to the present owner on 24 September 2020.
- 1.1.10 Examination of the aircraft maintenance records indicated that all applicable Service Letters (SL), Airworthiness Directives (AD) and Service Bulletins (SB) were complied with during the maintenance activities.

### **Probable Cause(s)**

The nose landing gear collapsed during the landing roll on the grass-covered Runway 03 at Mkambati Airfield, consequently, the propeller blades struck the ground. The cause was undetermined.

### **Contributing Factor(s)**

None.

### **Safety Action(s)**

None.

### **Safety Message and/or Safety Recommendation/s**

None.

### **About this Report**

*The decision to conduct a limited investigation is based on factors including whether the cause is known and the evidence supporting the cause is clear, the level of safety benefit likely to be obtained from an investigation and that will determine the scope of an investigation. For this occurrence, a limited investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this limited report. The report has been compiled using information supplied in the initial notification, as well as from follow-up desk top enquiries to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar occurrence.*

*All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.*

<b>Purpose</b>
<i>In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011 and ICAO Annex 13, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and not to apportion blame or liability.</i>
<b>Disclaimer</b>
<i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i>

**This report is issued by:**

**Accident and Incident Investigations Division  
South African Civil Aviation Authority  
Republic of South Africa**