SOUTH AFRICAN CIVIL AVIATION AUTHORITY

Section/division **Accident and Incident Investigations Division** Form Number: CA 12-57

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10433						
Classification	Accident	**Date**	19 March 2024		**Time**	1158Z	
Type of Operation	Training (Part 141)						
Location							
Place of Departure	George Aerodrome (FAGG), Western Cape Province	Place of Intended Landing	George Aerodrome (FAGG), Western Cape Province				
Place of Occurrence	Runway 29 at George Aerodrome (FAGG), Western Cape Province						
GPS Co-ordinates	Latitude	34° 00' 15.71" S	Longitude	022° 22' 51.51" E	Elevation	639 feet	
Aircraft Information							
Registration	ZS-TAI						
Make; Model; S/N	Piper PA-44-180 (Serial Number: 4496328)						
Damage to Aircraft	Substantial	Total Aircraft Hours	4 315.8				
Pilot-in-command							
Licence Type	Airline Transport Pilot Licence (ATPL)	Gender	Male	Age	35		
Licence Valid	Yes	Total Hours	2 922.5	Total Hours on Type	709.7		
Total Hours 30 Days	7.7	Total Flying on Type Past 90 Days	114.5				
People On-board	2+0	**Injuries**	0	**Fatalities**	0	**Other (on ground)**	0

What Happened

On 19 March 2024 at 1000Z, a flight instructor and a student pilot on-board a Piper PA-44 with registration ZS-TAI took off on a conversion check flight from George Aerodrome (FAGG) to the General Flying Area (GFA) East in the Western Cape province, with the intention to return to FAGG. The flight was conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 141 of the Civil Aviation Regulations (CAR) 2011 as amended.

The flight instructor stated that they were engaged in the last part of the conversion check which comprises circuits with simulated engine failures. On their return from the GFA East, they joined long final approach for Runway 29 (RWY 29). They then requested to conduct a few circuits with simulated engine failures from the air traffic control officer (ATCO). The ATCO granted their request. The flight instructor and the student pilot conducted two uneventful circuits. On the third circuit whilst on the left downwind RWY 29 after all the checks were completed, the flight instructor initiated a simulated engine failure and the student pilot followed all the procedures correctly. The ATCO instructed the crew to report on final approach RWY 29. The crew reported to the ATCO when they were on final approach RWY 29, thereafter, they conducted another touch-and-go landing. When they were on the left downwind, the student pilot informed the ATCO that he would be conducting a flapless circuit, touch-and-go landing, and a simulated flap failure. The ATCO acknowledged and asked the crew to report on final approach RWY 29.

When the crew was on base leg, the ATCO requested that the crew reduce speed to a minimum safe approach speed because of the aircraft that was departing ahead (of them) as well as the

helicopter that was landing. The flight instructor acknowledged; however, the crew had to cancel the simulated flap failure and apply full flaps so that they could have a safe minimum speed of 88 knots on final approach. The flight instructor noticed that the distance between their aircraft and the aircraft on the runway (departing aircraft) was closing and the aircraft on the runway had not commenced with the take-off run. Therefore, the flight instructor informed the student pilot to get ready for a go-around. As they approached the short final, he instructed the student pilot to initiate the go-around, and the student pilot complied.

Thereafter, the flight instructor informed the ATCO that they (ZS-TAI) were conducting a go-around. The ATCO instructed them to conduct an early right turn for right downwind RWY 29. Once they were established on the right downwind and had completed all their checks, they made a radio call to report right downwind. The ATCO told the crew to report final approach RWY 29. Once they were established on the base leg for RWY 29, the flight instructor initiated a simulated engine failure, and the student pilot started with the engine failure procedure (controlled the aircraft direction and speed). Whilst the student pilot was engaged with the procedure, the flight instructor's attention was drawn to the radio call from the ATCO which informed them of the inspection vehicle which was about to enter the runway at Alpha (A) 3 holding point RWY 29 and vacate on A2 which is in the middle of the runway.

The crew reported that they were on final approach RWY 29, and the ATCO told them to continue with the approach and expect a clearance over the runway numbers (at the threshold of RWY 29). The flight instructor's attention was now focused on the student pilot maintaining a safe speed with the vehicle on the runway. They continued with the approach, flew over the numbers and when they flew past the precision approach path indicator (PAPI) lights, the ATCO cleared them for landing. The flight instructor confirmed the ATCO's clearance, and the student pilot reduced power to idle. However, the crew heard a scrapping sound. Both propellers struck the runway, and the aircraft skidded on its belly. It finally stopped on the runway

Both occupants were not injured during the accident, the aircraft sustained damage to the belly and the propellers.

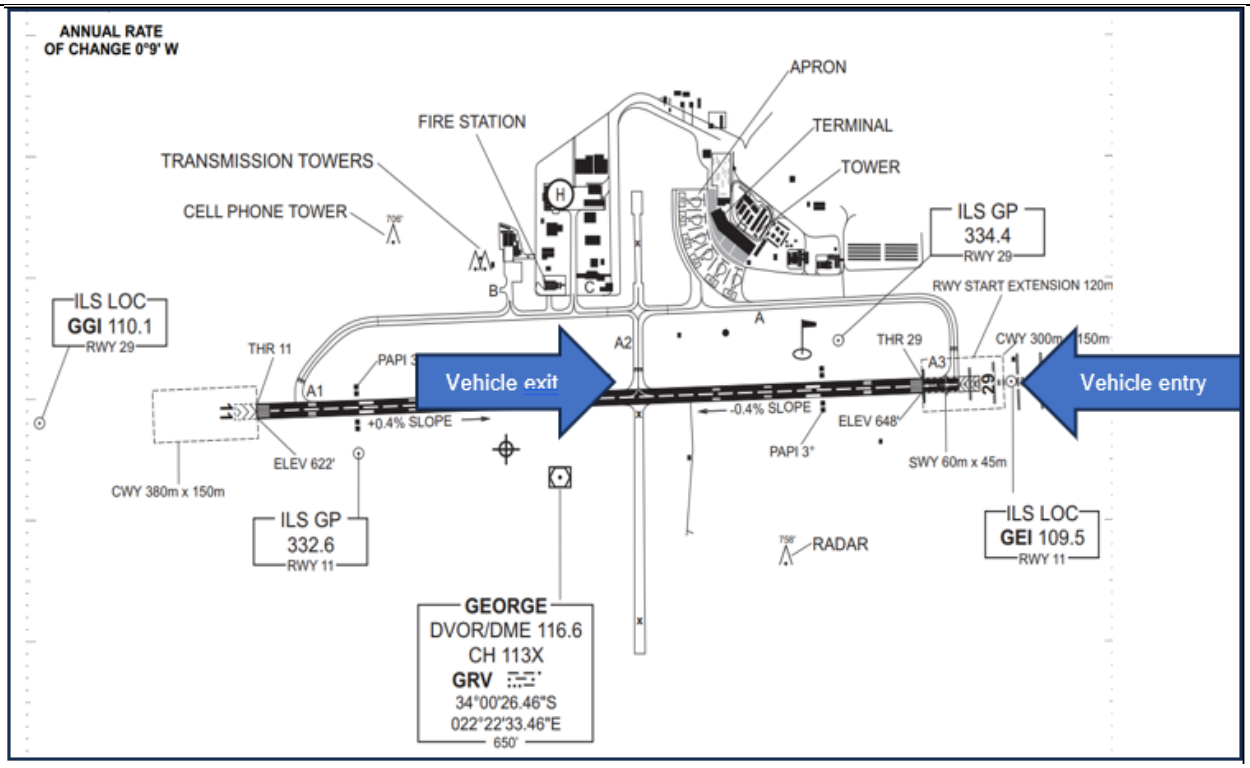

Figure 1: FAGG layout which shows the entry and exit points of the inspection vehicle. (Source: SACAA aeronautical charts)

Figure 2: The final resting position of the aircraft at FAGG. (Source: ATO)

Post-accident:

- According to the Meteorological Aerodrome Report (METAR) recorded by the South African Weather Service (SAWS) for FAGG on the day of the accident, the surface observation from FAGG showed moderate (9-10 knots) surface winds and few clouds at 3200 feet.

Wind Direction	170°	Wind Speed	9kt	Visibility	10km
Temperature	23°C	Cloud Cover	FEW	Cloud Base	3200ft
Dew Point	17°C	QNH	1016hPa		

Downwind Checks (Source: https://www.flight-training-made-simple.com/circuits-briefing)

B Brakes ---------- ON/OFF for pressure
U Undercarriage -- Down
M Mixture ---------- Rich/Se
P Pitch ---------- Set
P Power ---------- Set-Check white arc
F Flaps ---------- 10°
F Fuel pump ------- ON
H Harnesses ------- Secure
H Hatches ---------- Secure
L Landing lights --- ON

Final Approach and Landing (Source: Pilot's Operating Handbook)

Finals Checks
Gear warning horn----------Check
Seat backs----------Erect
Seat belts and harness----------Fasten/adjust
Fuel selectors----------ON
Cowl flaps----------As required
Electric fuel pumps----------ON
Mixture controls----------Rich
Prop sync----------Manual
Prop controls----------Full forward
Landing gear----------Down,140 KIAS max
Flaps----------Set,111 KIAS max
Approach speed----------75 KIAS or above
Air conditioner----------OFF

LANDING GEAR UNSAFE WARNINGS (Source: POH)

Red light indicates gear in transit.
Recycle gear if the indication continues.
Light will illuminate and the gear horn sounds when the gear is not down and
locked if throttles are at low settings or wing flaps are in the second or third notch position.

On final approach, the aircraft was at 88 knots as recommended in the POH and the flaps were on the third notch.

The flight instructor stated that when they were on downwind, they completed all their checks before engaging the radio call. They missed lowering the undercarriage both on downwind and final approach checks; this circuit was conducted after the go-around, followed by an early right turn. The flight instructor initiated a simulated engine failure on the base leg, and the student pilot complied with all the procedures.

Findings

1. The flight instructor was issued an Airline Transport Pilot Licence (ATPL) on 24 October 2023 with an expiry date of 30 November 2024.

2. The flight instructor was issued a Class 1 medical certificate on 14 August 2023 with an expiry date of 31 August 2024 with a restriction to wear corrective lenses when flying an aircraft.

3. The student pilot was issued a Commercial Pilot Licence (CPL) on 22 May 2024 with an expiry date of 30 April 2025.

4. The student pilot was issued a Class 1 medical certificate on 9 April 2024 with an expiry date of 30 April 2025 with no restrictions.

5. The aircraft's mandatory periodic inspection (MPI) was conducted on 1 March 2024 at 4 292.6 airframe hours, after which a Certificate of Release to Service (CRS) was issued with an expiry date of 3 March 2025 or at 4 392.6 hours, whichever comes first.

6. The Certificate of Airworthiness (C of A) was issued on 3 July 2023 with an expiry date of 31 July 2024.

7. The Certificate of Registration (C of R) was issued to the present owner on 18 January 2013.

8. The Approved Training Organisation (ATO) was issued an ATO certificate under Part 141 of the South African Civil Aviation Regulations on 15 November 2023 with an expiry date of 30 November 2028.

9. The crew conducted a go-around due to traffic on the runway, and the ATCO requested them to conduct an early right turn after the go-around. The flight instructor initiated a simulated engine failure for the student pilot on base leg. The flight instructor and the student pilot forgot to lower the landing gear during the downwind checks and did not check during the final approach if the landing gear was lowered, which resulted in a belly landing.

Probable Cause(s)

The aircraft landed with the landing gears retracted, which resulted in a belly landing.

Contributing Factor

Failure to complete the checklist due to task overload for the crew.

Safety Action(s)

None.

Safety Message and/or Safety Recommendation/s

Safety message: In the interest of safety, the ATOs and flight instructors are to remain vigilant in the critical phases of flight such as take-offs and landings to prevent injury and damage to property.

About this Report

The decisions 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.

Purpose

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.

Disclaimer

This report is produced without prejudice to the rights of the AIID, which are reserved.

This report is issued by:
Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa