

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10539						
Classification	Accident	Date	24 December 2024		Time	1346Z	
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Lanseria International Airport (FALA), Gauteng Province			Place of Intended Landing	Lanseria International Airport (FALA), Gauteng Province		
Place of Occurrence	Runway 07 at Lanseria International Airport (FALA)						
GPS Co-ordinates	Latitude	26°56'22.89" S	Longitude	027°55' 32.07" E	Elevation	4 521 feet	
Aircraft Information							
Registration	ZU-HUN						
Make; Model; S/N	Hawker Hunter T68 (Serial Number: 41HR003119)						
Damage to Aircraft	Substantial			Total Aircraft Hours	1 877.35		
Pilot-in-command							
Licence Type	Private Pilot Licence		Gender	Male		Age	69
Licence Valid	Yes	Total Hours	1 077.7		Total Hours on Type	155.2	
Total Hours 30 Days	14.2		Total Hours on Type Past 90 Days	14.2			
People On-board	1 + 1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Tuesday afternoon, 24 December 2024, a pilot and a passenger on-board a Hawker Hunter T68 aircraft with registration ZU-HUN took off on a private flight (aerobatics) from Lanseria International Airport (FALA) in Gauteng province with the intention to return to same airport. The flight was conducted under visual flight rules (VFR) by day and under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot stated that he performed a pre-flight inspection of the aircraft, and no anomalies were found. The aircraft had 5 500 pounds (lbs) of Jet A1 fuel in the tanks. The pilot reported that he started the engine and allowed it to warm up until the indications were within the normal operating range with positive fuel flow. Thereafter, he broadcasted his intention to the FALA air traffic control (ATC) officer on the very high frequency (VHF) 124.00-Megahertz (MHz) before taxiing the aircraft to Runway 07 holding point. Around 1312Z, the pilot taxied the aircraft to the threshold of Runway 07 and advanced the power lever to 7 900 calculated maximum thrust. The aircraft took off and headed in the direction of Pilanesberg Airport (FAPN) in Noth West province, travelling at 160 knots (kts). The mandatory occurrence report (MOR) that was compiled by the ATC officer at FALA revealed that upon arrival at FAPN, the pilot called FALA ATC and requested to start aerobatic manoeuvres and to climb to flight level (FL) 195 which is, according to the ATC officer, the highest VFR altitude permissible.</p>							

The ZU-HUN was given a step climb to FL190 because of the instrument flight rules (IFR) traffic in FAPN area that was slowly climbing to FL210. The aircraft climbed beyond FL190 (to FL195) and, thus, did not adhere to the ATC officer's instructions; the pilot contravened the height limitation he was given. The pilot reported that as they were performing the aerobatic manoeuvres, the aircraft's Global Positioning System (GPS) screen froze (stopped responding). Therefore, the pilot was unable to understand the landmarks on the ground as he was unfamiliar with the area. He then called FALA ATC to request vectors back to FALA. The ATC officer handed the pilot over to the radar controller after advising him to request vectors on first contact whilst broadcasting on the VHF 123.7 MHz.

The pilot was instructed to route to waypoint EGPOP situated west of FALA; however, the pilot informed the radar controller that he did not know the location of EGPOP. The radar controller then directed the pilot via radar vectors to route to LIV, which is the VHF Omnidirectional Range (VOR) for FALA. The pilot's response to the radar controller was that he was not familiar with the location of LIV. Later, the pilot reported that he had the runway in sight. He was then cleared for a straight-in approach for Runway 07. During landing, the pilot did not extend the landing gear; consequently, the aircraft touched down on underbelly and wing-drop tanks. The aircraft slid for approximately 110 metres (m) before it stopped on the runway. The ATC activated the crash alarm and the Aircraft Rescue and Firefighting (ARFF) personnel were dispatched to the scene. The firefighting team sprayed foam on and around the aircraft to suppress a possible fire. The aircraft sustained substantial damage during the accident; no person was injured. Due to the accident, Runway 07 was closed from 1346Z to 1600Z. During closure, inbound traffic was diverted to O.R. Tambo International Airport (FAOR) and the aircraft was recovered to a hangar in FALA.

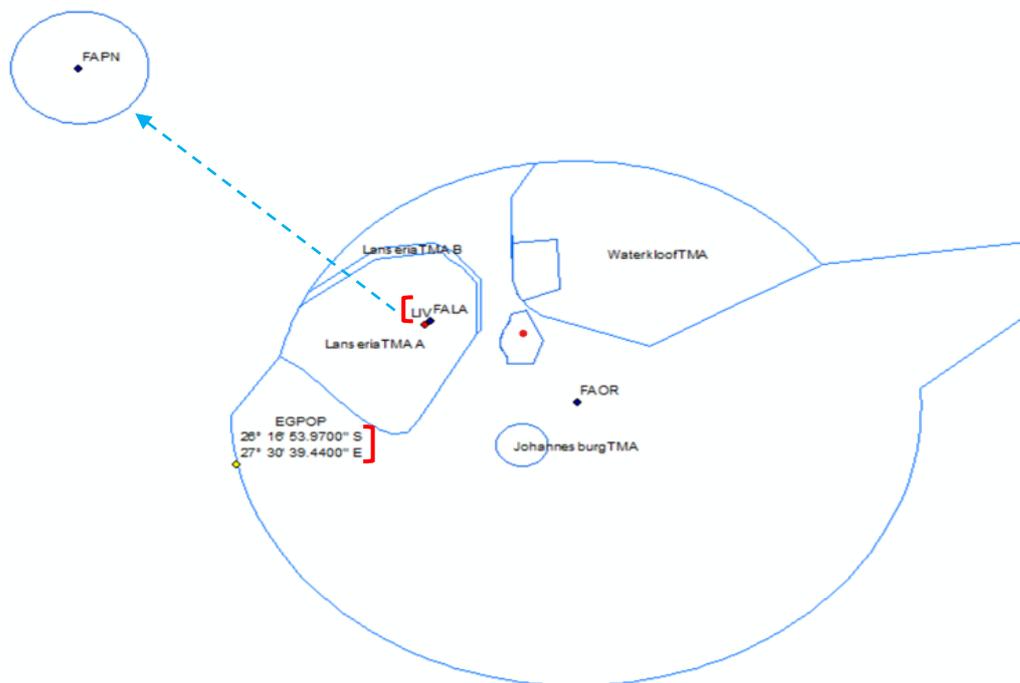


Diagram 1: The location of FAPN, EGPOP and LIV. (Source: Google Earth)



Figure 1: The front view of the aircraft after the accident. (Source: FALA ARFF)



Figure 2: The rear view of the aircraft post-accident. (Source: FALA ARFF)



Figure 3: The aircraft after it was recovered to the hangar. (Source: Pilot)

Aircraft Description (Source: Hawker Hunter Pilot's Operating Handbook [POH])

The Hawker Hunter T68 is a single-engine, swept-wing ex-military aircraft manufactured in the United Kingdom (UK). ZU-HUN was built in 1955 as a single-seat aircraft, but was modified in 1959, with two pilot seats installed side-by-side, to become a T68 two-seat trainer. Both pilot positions were fitted with SHM-4 model ejection seats. The aircraft is powered by a Rolls Royce Avon 207C axial flow turbo jet engine. The landing gear consists of two inwardly retracting main legs and a forward retracting nose leg positioned in normal operation by hydraulic actuators. The landing gear is controlled from the cockpit by a selector switch, which consists of two inter-locked push-switches, the operation of either one ejecting the other. The upper push switch is used to retract and the lower to extend the gear. Selection supplies 24 volts to either the extend or retract connector pin of an electro-hydraulic valve, which has a common earth return. Within this common earth line there is a micro-switch, operated on selection of the emergency landing gear extension system, to isolate the normal operating system. Under normal operations, the electro-hydraulic valve ports hydraulic fluid from the pressure and return lines to the landing gear actuators to position the gear in response to a cockpit selection. In the event of hydraulic or electrical failure the landing gear can be lowered using a pneumatic system. When the emergency extension control is operated, the electro-hydraulic valve is isolated as above and high-pressure air is directed to two shuttle valves which operate to cut off the hydraulic supply circuit and permit high pressure air to flow to the extend side of the landing gear actuators. Additionally, the high-pressure air opens an oil jettison valve which permits oil in the landing gear retract lines to be vented to atmosphere.

Meteorological Information

The Meteorological Aerodrome Report (METAR) was obtained from the South African Weather Service (SAWS) website which was issued for FALA at 1310Z on 24 December 2024.

FALA 241330Z 03006KT 360V060 9999 SCT035 26/16 Q1021 NOSIG=

Wind Direction	030°	Wind Speed	6 knots	Visibility	9999 m
Temperature	26°C	Cloud Cover	SCT035	Cloud Base	None
Dew Point	16°C	QNH	1021hPa		

The passenger on-board was a French citizen and had a Private Pilot Licence (PPL) that was issued by the French Civil Aviation Authority. The passenger was not rated on the aircraft type. He had requested to fly with the pilot to have a feel of the aircraft during aerobatics. During the interview, the pilot stated that he did not consider the pre-landing checks as stipulated in the POH due to the increased workload; as a result, the aircraft touched down with the landing gear retracted.

Findings

1. Personnel Information

- 1.1 The pilot had a Private Pilot Licence (PPL) that was initially issued by the Regulator (SACAA) on 3 November 1995. The licence was reissued on 31 October 2024 with an expiry date of 31 October 2026. The pilot had flown a total of 1 077.7 hours of which 155.2 were on the aircraft type.
- 1.2 The pilot had the aircraft type endorsed on his licence.
- 1.3 The pilot did not have an aerobatic qualification (rating).
- 1.4 The pilot had a Class 2 aviation medical certificate that was issued on 16 October 2024 with an expiry date of 31 October 2025. He had a restriction to wear suitable corrective lenses for defective distant vision (VML).

2. Aircraft Information

- 2.1 The aircraft was maintained by an approved person (AP) under the Approved Person Scheme at the Aero Club of South Africa. The last 100-hour annual inspection of the aircraft was conducted and certified on 27 March 2024 at 1 874.48 airframe hours. The aircraft had accrued 2.87 hours since the annual inspection.

- 2.2 The aircraft had a valid Authority-to-fly (ATF) Certificate that was initially issued on 9 September 2019. The latest ATF Certificate was issued on 16 April 2024 with an expiry date of 4 April 2025.
- 2.3 The aircraft's Certificate of Registration (C of R) was issued to the present owner on 2 March 2007.
- 2.4 The aircraft had a Certificate of Release to Service (CRS) that was issued on 27 March 2024 with an expiry date of 26 March 2025 or at 1 974.48 airframe hours, whichever occurs first.
- 2.5 The pilot omitted to extend the landing gear during final approach for landing on Runway 07 and, thus, the aircraft touched down with the underbelly and drop-wing fuel tanks.

Probable Cause(s)

The pilot omitted to extend the landing gear during final approach for landing on Runway 07 and, thus, the aircraft touched down on the underbelly and drop-wing fuel tanks.

Contributing Factor(s)

High workload in the cockpit and lack of situational awareness.

Safety Recommendation(s)

It is recommended that the Director of Civil Aviation (SACAA) conduct an assessment relating to the pilot's competence as the pilot made a series of poor airmanship decisions that could have adversely affected other traffic. It is also advisable that the pilot undergo threat and error management training via an approved aviation training organisation to ensure that he has the knowledge to recognise risks and associated consequences as well as act promptly to prevent adverse outcomes.

Safety Message

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 desktop inquiries 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.

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This report is issued by:

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