

LIMITED ACCIDENT INVESTIGATION REPORT

Reference Number	CA18/2/3/10140						
Classification	Accident	Date	4 April 2022		Time	0740Z	
Type of Operation	Private Flight (Part 91)						
Location							
Place of Departure	Riverside Aerodrome, Mpumalanga Province		Place of Intended Landing		Hoedspruit Civil Aerodrome (FAHT), Limpopo Province		
Place of Accident	Hangar No. 28 on the right-side of Runway 35 at FAHT						
GPS Co-ordinates	Latitude	24°21'02.87" S	Longitude	030°56'53.40" E	Elevation	1 800ft	
Aircraft Information							
Registration	ZS-MSB						
Make/Model	Cessna T210N (Serial No. 210-64663)						
Damage to Aircraft	Substantial		Total Aircraft Hours		3 440.1		
Pilot-in-command							
Licence Type	Private Pilot Licence		Gender	Male		Age: 47	
Licence Valid	Yes						
Total Hours on Type	150.1		Total Flying Hours		754.7		
People On-board	1 + 0	Injuries	0	Fatalities	0	Other (On ground)	0
What Happened							
<p>On Monday morning, 4 April 2022 at 0700Z, a private pilot flying solo on-board a Cessna T210N aircraft with registration ZS-MSB took off from Riverside Aerodrome near Malelane with the intention to land at Hoedspruit Civil Aerodrome (FAHT). The flight was conducted under the provisions of Part 91 of the Civil Aviation Regulations 2011 as amended. No flight plan was filed; the flight time was approximately 40 minutes.</p> <p>The pilot stated that he was in radio communication with air traffic control (ATC) at Air Force Base Hoedspruit Approach (Hoedspruit Aerodrome - FAHS) on the very high frequency (VHF) 126.40-Megahertz (MHz) and was cleared to land at FAHT, number two, on Runway 35 as it was the active runway. ATC indicated the wind to be 360° at 10 knots, which was the prevailing wind at FAHS at the time.</p>							

The pilot stated that he was familiar with FAHT as he regularly landed and took off from the aerodrome. The pilot stated that he had selected full wing flaps for landing and shortly after touchdown, the aircraft veered off to the right-side of the runway. He then applied the left rudder, but it had no effect. The pilot was unable to bring the aircraft to a stop and, thus, collided with Hangar Number 28 on the right-side of the runway. The pilot was not injured during the accident sequence; he secured the aircraft post-crash before he disembarked unassisted. The aircraft sustained substantial damage.

Hoedspruit Civil Aerodrome (FAHT)

FAHT is an unlicensed aerodrome with a single asphalt runway that is 1 200 metres (m) long and 9m wide, at an elevation of 1 800 feet (ft). All the hangars at FAHT are located on the right-side of Runway 35 and are positioned approximately 40m from the runway centreline.



Figure 1: Aerial view, final approach for Runway 35 at FAHT. (Source: Mr Wynand Uys)



Figure 2: Tyre markings of the right main wheel and the accident aircraft in the yellow window.



Figure 3: Tyre/brake markings from the left and the right wheels following excessive braking.



Figure 4: Tyre markings on the paving from the right wheel whilst brakes were applied.



Figure 5: A front view of the aircraft after it came to rest.

The pilot

The pilot was issued a Private Pilot Licence (PPL) by the Regulator (SACAA) on 3 April 2006 with an expiry date of 30 November 2023. According to available information, the aircraft type (Cessna T210) was not endorsed on the pilot's licence as per the provisions of Part 61.09.1(2)(a) of the Civil Aviation Regulations 2011 as amended. The pilot had conducted differences training with a flight instructor on 9 December 2020, and the form CA 61-09.7 was completed and signed by both persons (pilot and flight instructor). The aircraft type (C210) was endorsed by the flight instructor on the pilot's logbook on that day. At the time of the accident, the pilot had flown a total of 754.7 hours of which 150.1 hours were on the aircraft type. During the past 90 days, the pilot had flown 6.3 hours, including the accident flight. All these hours were flown on the accident aircraft. According to the pilot's logbook, he had landed at FAHT on several occasions prior to the accident flight.

The aircraft

The aircraft, a Cessna T210N with serial number 210-64663, was manufactured in 1982. The last maintenance inspection prior to the accident flight was carried out on 9 March 2022 at 3 433.1 airframe hours. A further 7.0 hours were flown since the inspection. The aircraft was fitted with a Continental TSIO-520-R7B engine, with serial number 1002784 and a Hartzell PHC-J3YF-1RF propeller with serial number JN196B. The aircraft was first issued a Certificate of Airworthiness on 25 March 2013; revalidation was conducted with an expiry date of 31 March 2023. A Certificate of Registration was issued to the present owner on 5 March 2020.

Weather information

The tables below present the meteorological aerodrome reports (METARs) data for Hoedspruit Aerodrome (FAHS) at 0700Z and 0800Z on 4 April 2022. FAHT is located 5.5 nautical miles (nm) north-west of FAHS.

FAHS 040700Z AUTO 34004KT //// // ///// 26/19 Q1015=

Wind Direction	340°	Wind Speed	4 knots	Visibility	> 10km
Temperature	26°C	Cloud Cover	Broken	Cloud Base	6 000ft
Dew Point	19°C	QNH	1015 hPa		

FAHS 040800Z AUTO 36005KT //// // ///// 26/19 Q1015=

Wind Direction	360°	Wind Speed	5 knots	Visibility	> 10km
Temperature	26°C	Cloud Cover	Broken	Cloud Base	6 000ft
Dew Point	19°C	QNH	1015 hPa		

The ATC at FAHS provided the pilot with the prevailing wind of 360° at 10 knots at the time.

According to the aircraft maintenance organisation (AMO) team that is based at FAHT and that recovered the aircraft, there was a light wind of not more than 5 knots that was blowing at the time the pilot landed.

Follow up investigation

The first people who responded to the accident scene were a number of aircraft maintenance engineers (AMEs) as the hangar with which the aircraft collided was located next to the AMO's hangar. The pilot mentioned to the AMEs that he thought the right brake might have locked; and they then disconnected the emergency locator transmitter (ELT) which had activated due to the impact. Both main wheels were inspected by the AMEs and it was found that they both turned freely, no evidence of binding was noted. The brakes were tested; and when the AMEs pushed the aircraft to the AMO's hangar, no anomalies were found.

Visible ground markings

The tyre/brake marking of the right wheel from the first touch (on the runway's surface) until impact with the hangar was approximately 260m; a section of the marking could be seen in Figure 2. Figures 3 and 4 show that the pilot had applied brakes until the aircraft impacted the hangar.

What was found

- (i) The pilot was issued a Private Pilot Licence. The aircraft type was not endorsed on his licence according to the provisions of Part 61.09.1(2)(a) of the Civil Aviation Regulations 2011 as amended, but it was endorsed on his logbook on 9 December 2020.
- (ii) The pilot had flown 6.3 hours during the past 90 days, including the accident flight which had a duration of 42 minutes (0.7 hours).
- (iii) The pilot was the sole occupant on-board the aircraft; weight and balance was not compromised.
- (iv) The pilot was not injured; he had made use of the aircraft's equipped safety harness, which included a shoulder harness.
- (v) This was a private flight conducted under the provisions of Part 91 of the Civil Aviation Regulations 2011 as amended.
- (vi) The last maintenance inspection that was carried out on the aircraft prior to the accident flight was certified on 9 March 2022 at 3 433.1 airframe hours. A further 7.0 hours were flown since the last inspection.
- (vii) The aircraft was issued a Certificate of Airworthiness on 25 March 2013 with an expiry date of 31 March 2023.

- (viii) Fine weather conditions prevailed with a light northerly wind at the time of the flight.
- (ix) No mechanical defect was found that could have contributed or have caused the accident. Both the main wheels turned freely, and the brakes were fully functional after the accident.
- (x) According to the tyre markings, it appeared as if the aircraft contacted the runway surface with its right wheel first.

Probable cause:

The pilot landed with the right brake applied (depressed toe brake) on the rudder pedals; as he applied the left rudder to counteract the right yaw, he most probably applied additional pressure on the right brake, which caused the aircraft to yaw to the right. The pilot was unable to bring the aircraft to a stop and it collided with a hangar.

Safety Action

None.

Safety Recommendation/Message

None.

Purpose of the Investigation

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, 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**.*

About this Report

Decisions regarding whether to investigate, and the scope of an investigation are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, no 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 brief report. The report has been compiled using information supplied in the initial notification, as well as follow-up information 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 accident.

This report provides an opportunity to share safety message/s in the absence of an investigation.

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.

Disclaimer

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