



AIRCRAFT SERIOUS INCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:		CA18/3/2/1432	
Aircraft Registration	ZS-SPO&ZS-SLY	Date of Incident	8 November 2023		Time of Incident	1037Z	
Type of Aircraft	Cessna 172M (ZS-SPO)		Type of Operation		Training Flight (Part 141)		
Type of Aircraft	Cessna 172M (ZS-SLY)		Type of Operation		Private Flight (Part 91)		
Pilot-in-command Licence Type (ZS-SPO)		Student Pilot Licence (SPL)	Age	31	Licence Valid	Yes	
Pilot-in-command Licence Type (ZS-SLY)		Private Pilot Licence (PPL)	Age	23	Licence Valid	Yes	
Pilot-in-command Flying Experience (ZS-SPO)		Total Flying Hours	40		Hours on Type	22.9	
Pilot-in-command Flying Experience (ZS-SLY)		Total Flying Hours	123		Hours on Type	112.6	
Last Point of Departure (Both Aircraft)		Wonderboom Airport (FAWB), Gauteng Province					
Next Point of Intended Landing (ZS-SPO)		Wonderboom Airport (FAWB), Gauteng Province					
Next Point of Intended Landing (ZS-SLY)		Vereeniging Airport (FAVV), Gauteng Province					
Damage to Aircraft (Both Aircraft)		Minor					
Location of the incident site with reference to easily defined geographical points (GPS readings if possible)							
On Taxiway D at FAWB at GPS co-ordinates: S25° 39'17.17" E028°12'52.35" at an elevation of 4 055 feet							
Meteorological Information		Surface wind: 270°/03 kts; temperature: 19°C; dew point: 0°C; visibility: CAVOK; QNH: 1021 hPa					
Number of People On-board	1+0 (ZS-SPO) and 2+0 (ZS-SLY)	Number of People Injured	0	Number of People Killed	0	Other (On Ground)	0
Synopsis							
<p>On Wednesday, 8 November 2023, a student pilot (SP) on-board a Cessna 172M aircraft with registration ZS-SPO was taxiing on Taxiway Delta (D) at Wonderboom Airport (FAWB) in Gauteng province. The SP intended to conduct circuit-and-landing exercises at FAWB. Meanwhile, two pilots on-board a Cessna 172M with registration ZS-SLY intended to engage in a private flight from FAWB to Vereeniging Airport (FAVV). Both flights were conducted in visual meteorological conditions (VMC) by day and under the provisions of Part 141 and Part 91 (respectively) of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The SP was granted permission to taxi on Taxiway Foxtrot (F) and proceed across Runway 06 (RWY 06) and advance to Taxiway Golf (G) and Taxiway D towards Runway 11 (RWY) holding point. After reaching Taxiway D which is adjacent RWY 11 holding point, the SP noticed ZS-SLY which was engaged in power checks. The SP was unsure about the duration of the ongoing power checks, thus, he decided to manoeuvre around the stationary ZS-SLY. During the manoeuvre, the left wing of ZS-SPO impacted the right wing of ZS-SLY. Both aircraft sustained minor damage to the wings. No person was injured.</p>							

Probable Cause/s and/or Contributory Factors

ZS-SPO's left-wing tip impacted the right wing of the stationary ZS-SLY during taxi to Runway 11.

Contributing Factor(s)

ZS-SPO student pilot misjudged the clearance distance between the two aircraft.

SRP Date	11 June 2024	Publication Date	12 June 2024
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Occurrence Details

Reference Number : CA18/3/2/1432
Occurrence Category : Category 2
Type of Operation : ZS-SPO-Training Flight (Part 141) and ZS-SLY-Private (Part 91)
Name of Operator : Loutzavia Flight School and Blue-Chip Flight School
Aircraft Registration : ZS-SPO and ZS-SLY
Aircraft Make and Model : Cessna 172M (Both aircraft)
Nationality : South Africa
Place : Taxiway Delta at FAWB Airport
Date and Time : 8 November 2023 at 1037Z
Injuries : None
Damage : Minor damage to both aircraft

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.

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.

Investigation Process

The Accident and Incident Investigations Division (AIID) of the South African Civil Aviation Authority (SACAA) was notified of the occurrence on 8 November 2023 at 1050Z. The occurrence was classified as a serious incident according to the CAR 2011 Part 12 and the International Civil Aviation Organisation (ICAO) STD Annex 13 definitions. The notification was sent to the State of Registry and Operator in accordance with the CAR 2011 Part 12 and ICAO Annex 13 Chapter 4. The States did not appoint an accredited representative and/or advisor. The investigator did not dispatch to the incident site for this serious incident.

Notes:

- Whenever the following words are mentioned in this report, they shall mean the following:
Serious Incident — this investigated serious incident
Aircraft — the Cessna 172M (both aircraft) involved in this serious incident
Investigation — the investigation into the circumstances of this serious incident
Pilot — the pilot involved in this serious incident
Report — this serious incident report*
- Photos and figures used in this report were taken from different sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression; or enhancement of colour, brightness, contrast; or addition of text boxes, arrows, or lines.*

Disclaimer

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S

Abbreviation	Description
°	Degrees
°C	Degrees Celsius
A	Alpha
AIID	Accident and Incident Investigations Division
AMO	Aircraft Maintenance Organisations
ARFF	Airport Rescue and Fire Fighting
B	Bravo
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CAR	Civil Aviation Regulations
CAVOK	Ceiling And Visibility OK
CFI	Chief Flying Instructor
CRS	Certificate of Release to Service
D	Delta
DME	Distance Measuring Equipment
E	East
FAVV	Vereeniging Airport
FAWB	Wonderboom National Airport
ft	Feet
GFA	General Flying Area
GPS	Global Positioning System
hPa	Hectopascal
kts	Knots
m	Metres
METAR	Meteorological Aerodrome Report
MHz	Megahertz
N/A	Not Applicable
PPL	Private Pilot Licence
QNH	Altitude Above Mean Sea Level
RWY	Runway
S	South
SACAA	South African Civil Aviation Authority
SAWS	South African Weather Service
SPL	Student Pilot Licence
VOR	Very High Frequency Omni-Directional Range
Z	Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich)

1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1. On Wednesday, 8 November 2023, a student pilot on-board a Cessna 172M aircraft with registration ZS-SPO intended to fly from Wonderboom Airport (FAWB) in Gauteng province to the general flying area (GFA) and, thereafter, return to FAWB. Another aircraft, a Cessna 172M registered ZS-SLY with two pilots on-board was stationary on Taxiway Delta (D) at FAWB in Gauteng province; the pilots intended to conduct a private flight to Vereeniging Airport (FAVV) in Gauteng province.
- 1.1.2. Both aircraft were operated under visual meteorological conditions (VMC) by day. The ZS-SPO was to be flown under the provisions of Part 141, and ZS-SLY was to be flown under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.
- 1.1.3. During an interview with the SP, it was found that earlier that day, he conducted a flight with the instructor to the GFA for training; the flight lasted approximately 1 hour. The training was to prepare the SP for his solo consolidation flight. After completing the training exercises at the GFA, they returned to FAWB to conduct circuit-and-landing exercises before the SP could embark on his solo consolidation. The instructor and the SP reported that their flight to the GFA and back to FAWB was uneventful. The aircraft landed safely at FAWB, vacated the runway, and proceeded to the apron for the instructor to disembark so that the SP can commence the circuit-and-landing exercises. The aircraft's engines were not switched off when the instructor disembarked from the aircraft.
- 1.1.4. The SP stated that he requested taxi instructions from the air traffic control (ATC) officer who instructed him to taxi via, Taxiway Foxtrot, cross over RWY 06 and advance to Taxiway Golf (G) and Taxiway Delta (D) to reach Runway 11 (RWY 11) holding point.
- 1.1.5. When the aircraft was taxiing on Taxiway D near RWY 11 holding point, the SP noticed a stationary Cessna 172M (ZS-SLY) which was conducting power checks.
- 1.1.6. The SP stated that as he was not certain how long the crew of the ZS-SLY will take to complete their power checks, he decided to manoeuvre around the aircraft to advance to RWY 11. During the manoeuvre, the left wing of ZS-SPO impacted the right wing of ZS-SLY at a low speed. The SP brought the aircraft to a stop soon after the impact and switched off the engine. The crew on-board ZS-SLY informed the ATC officer about the incident after they had also switched off their engines.
- 1.1.7. The SP stated that after he had disembarked from the aircraft, he approached ZS-SLY crew to determine any injuries and inspect the damage on the aircraft.
- 1.1.8. The ATC notified the Airport Rescue and Firefighting (ARFF) team who rushed to the scene; they secured the area and checked if the occupants from both aircraft needed medical assistance. Both aircraft crew and ARFF team confirmed that the two aircraft sustained minor damage. None of the crew from both aircraft was injured.
- 1.1.9. The incident occurred during daylight under visual flight rules at Global Positioning System (GPS) co-ordinates determined to be 25°39'17.17"S 028°12'52.35"E at an elevation of 4 055 feet (ft).



Figure 1: The aerial view of the incident site. (Source: Google Earth)

1.2. Injuries to Persons

ZS-SPO

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
None	1	-	-	1	-
Total	1	-	-	1	-

Note: Other refers to people on the ground.

ZS-SLY

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
None	2	-	-	2	-
Total	2	-	-	2	-

Note: Other refers to people on the ground.

1.3. Damage to Aircraft

- 1.3.1 Both aircraft sustained minor damage. The ZS-SPO sustained scratches to the underside of the left-wing tip; the ZS-SLY sustained damage to the right-wing tip fairing (see Figure 2).



Figure 2: Minor damage to the right-wing tip fairing of ZS-SLY. (Source: ATO)

1.4. Other Damage

1.4.1. None.

1.5. Personnel Information

Student Pilot (ZS-SPO)

Nationality	Nigerian	Gender	Male	Age	24
Licence Type	Student Pilot Licence (SPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	31 May 2028				
Restrictions	None				
Previous Accidents***	None				

Note: Previous serious incidents refer to past serious incidents the pilot was involved in, when relevant to this incident.

Flying Experience:

Total Hours	40.0
Total Past 24 Hours	1.1
Total Past 7 Days	3.5
Total Past 90 Days	22.9
Total on Type Past 90 Days	22.9
Total on Type	40.0

1.5.1 The SP was issued a Student Pilot Licence (SPL) on 1 June 2023 with an expiry date of 31 May 2024. The aircraft type was endorsed on the SP's licence. According to the SP's logbook, he had flown a total of 40 hours, with 22.9 hours flown on the aircraft type. The SP had a Class 2 medical certificate that was issued on 29 May 2023 with an expiry date of 31 May 2028 with no restrictions.

1.5.2 According to the training school (approved training organization [ATO]), the SP was assessed by the chief flying instructor (CFI) on 27 September 2023 at 29.9 total hours. In accordance with the CAR and the Civil Aviation Technical Standards (SACATS) Part 61.02.7, student pilots should be assessed before they reach 30 hours flight time. The CFI found the SP competent. The SP conducted his first solo flight (Exercise 14) on 10 October 2023 at 34.6 hours, which was successful. The SACATS Part 61.02.7 states the following:

Failure to be recommended for solo flight after 30 hours (Aeroplane) or 40 hours (Helicopter) of dual flight training.

(1) *A student pilot who fails to be recommended for solo flight after completing 30 (A) hours or 40 (H) hours of dual flight training, shall undergo a flight assessment by the CFI of the ATO where he or she is receiving flight training.*

Pilot (ZS-SLY)

Nationality	Zimbabwean	Gender	Male	Age	23
Licence Type	Private Pilot Licence (PPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Night rating				
Medical Expiry Date	31 May 2028				
Restrictions	None				
Previous Accidents	None				

Note: Previous serious incidents refer to past serious incidents the pilot was involved in, when relevant to this incident.

Flying Experience:

Total Hours	123
Total Past 24 Hours	0.4
Total Past 7 Days	3.7
Total Past 90 Days	40.5
Total on Type Past 90 Days	40.5
Total on Type	112.6

1.5.3 The pilot was issued a Private Pilot Licence (PPL) on 9 September 2019. The pilot’s PPL was revalidated on 26 October 2022, and the licence was reissued on the same day with an expiry date of 31 October 2024. The pilot had flown a total of 123 hours, of which 112.6 hours were on the aircraft type.

1.5.4 The pilot had a Class 2 medical certificate that was issued on 11 March 2019 with an expiry date of 31 March 2024 with no restrictions.

1.6 Aircraft Information

1.6.1 ZS-SPO aircraft

Airframe:

Manufacturer/Model	Cessna/172M	
Serial Number	172-65534	
Year of Manufacture	1975	
Total Airframe Hours (At Time of Serious Incident)	11 205.3	
Last Inspection (Date & Hours)	27 October 2023	11 194.3
Airframe Hours Since Last Inspection	11.0	
CRS Issue Date	5 May 2023	
C of A (Issue Date & Expiry Date)	8 September 2010	30 September 2024
C of R (Issue Date) (Present Owner)	7 October 2015	
Operating Category	Standard Normal Category	
Type of Fuel Used	Avgas 100LL	
Previous Serious Incidents	None	

Note: Previous serious incidents refer to past serious incidents that the aircraft was involved in, when relevant to this incident.

Engine:

Manufacturer/Model	Textron/Lycoming
Serial Number	L-40483-27A
Part Number	O-320-E2D
Hours Since New	1051.4
Hours Since Overhaul	Not yet reached

Propeller:

Manufacturer/Model	McCauley
Serial Number	LF009
Part Number	1C160/DTM7553
Hours Since New	308.7
Hours Since Overhaul	Not yet reached

1.6.1.1 The ZS-SPO aircraft had a valid Certificate of Release to Service (CRS) that was issued on 5 May 2023 at 10 995.6 airframe hours with an expiry date of 4 May 2024 or at 11 095.6 airframe hours, whichever occurs first. The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued on 9 September 2010. The latest C of A was renewed on 1 August 2023 with an expiry date of 30 September 2024.

1.6.2 ZS-SLY aircraft

Manufacturer/Model	Cessna/172M
Serial Number	17267263
Year of Manufacture	1976

Total Airframe Hours (At Time of Serious Incident)	Unknown	
Last Inspection (Date & Hours)	17 August 2023	10 469.3
Airframe Hours Since Last Inspection	Unknown	
CRS Issue Date	17 August 2023	
C of A (Issue Date & Expiry Date)	1 November 2009	30 September 2024
C of R (Issue Date) (Present Owner)	25 May 2017	
Operating Category	Standard Normal Category	
Type of Fuel Used	Avgas 100LL	
Previous Serious Incidents	None	

1.6.2.1 The ZS-SLY aircraft had a valid CRS that was issued on 17 August 2023 at 10 469.3 airframe hours with an expiry date of 16 August 2024 or at 10 569.3 airframe hours, whichever occurs first. The aircraft had a valid C of A that was initially issued on 1 November 2009. The latest C of A was renewed on 18 October 2023 with an expiry date of 30 November 2024.

1.7 Meteorological Information

The following weather information was issued by the South African Weather Service (SAWS) for FAWB on 8 November 2023 at 11:00Z.

Wind Direction	050°	Wind Speed	7kts	Visibility	9999m
Temperature	24°C	Cloud Cover	CAVOK	Cloud Base	N/A
Dew Point	13°C	QNH	1020hPa		

1.8 Aids to Navigation

1.8.1 Both aircraft were equipped with standard navigational equipment as approved by the Regulator (SACAA). No records indicated that the navigational equipment was unserviceable for both aircraft.

1.9 Communication

Both aircraft had a communication system that was approved by the Regulator. There were no recorded defects with the communication system for both aircraft. Both aircraft communicated with FAWB ground control on 120.6-Megahertz (MHz) frequency (see the transcript below):

10:31:31	SPO	GMC	SPO is a C172 parked at Loutzavia hangars, requesting instructions for 3 circuits and landings I am a solo student I am the only one on board I have 0.9 hours SPO
10:31:47	GMC	SPO	SPO report endurance?
10:31:50	SPO	GMC	Endurance 3 hours endurance
10:31:53	GMC	SPO	SPO Runway 11 QNH 1021 taxi foxtrot, cross runway 06, golf, delta to holding point Runway 11 report ready
10:32:04	SPO	GMC	Taxi foxtrot, cross runway 06, golf, delta to holding point Runway 11 QNH 1022 runway in use Runway 11 SPO
10:32:11	GMC	SPO	QNH 1021

10:36:34	ZS-SLY	GMC	Ground from SLY
10:36:36	GMC	ZS-SLY	SLY go-ahead
10:36:38	ZS-SLY	GMC	SPO has just hit us at hit us at the holding point Runway 11
10:36:44	GMC	ZS-SLY	SLY copied can you go ahead and shut down there, sir I will advise them to do the same
10:36:48	ZS-SLY	GMC	Copied thank you SLY
10:36:52	GMC	ELL	ELL hold short of bravo
10:36:55	ELL	GMC	Hold short of bravo ELL
10:37:04	GMC	SPO	SPO shut down sir shut down the aircraft, you've contacted the other aircraft I am sending a vehicle for assistance.
10:37:06	SLY	GMC	Ground from SLY
10:37:12	GMC	SLY	Go-ahead
10:37:14	SLY	GMC	Please can you inform the ops please
10:37:15	GMC	SLY	Will do sir

1.10 Aerodrome Information

Aerodrome Location	Pretoria, Gauteng Province
Aerodrome Status	Licensed
Aerodrome GPS coordinates	25°39'19.11" South 028°13'16.81 East
Aerodrome Elevation	4095 feet
Runway Headings	11/29 and 06/24
Dimensions of Runway Used	11/29 [1835m x 30m (or 6019ft x 98ft)]
Heading of Runway Used	None (Taxi way "D")
Surface of Runway Used	Asphalt
Approach Facilities	VOR/DME
Radio Frequency	Tower 118.35 MHz Ground 120.6 MHz

Note: FAWB has a fence with a gate in front of Apron A and a section of Apron B. This fence does not restrict the use of Taxiway A; however, it is to be used at pilots' discretion as it is not cleared of foreign objects that might cause damage to the aircraft. The airport manager has approved the use of the apron. The fence imposes limitations to other aircraft from accessing Taxiway Alpha (A), which is the holding point of RWY 11. There is a designated area for engine power checks near RWY 29 and RWY 24 and another run-up area near RWY 06. In cases where RWY 11 is used, pilots utilise Taxiway D as a run-up area as no designated area is available near this runway.

Aerodromes and Heliports: (Source: Civil Aviation Regulations, 2011)

Part 139

SUBPART 1

Test-running of aircraft engines.

139.01.25 *No person shall test-run an aircraft engine on a licensed aerodrome or heliport except at a place designated for the purpose by the aerodrome or heliport operator.*

Local Traffic Regulations (Source: SACAA Aeronautical Information Publication [AIP])

FAWB AD 2.20 LOCAL TRAFFIC REGULATIONS

- 1) Engine running only to be conducted on Designated Engine running area at Main windsock E of TWY D4. Taxi clearance to be obtained from Ground Movement Control, FREQ 120.60 MHz.
 - 2) No PRKG by any ACFT is allowed on or close to any TWY this includes the taxiways located within the APN and AD MOV area.
 - 3) Pilots taxiing to or FM the 'B' or 'C' (Main) APN or Fuel bay have to obtain instructions FM ATC on FREQ 120.6 MHz.
 - 4) Pilots taxiing on TWY C2 to EXER CTN BTN TWY B and TWY D, due to HEL circuits PARL to RWY 11/29.
 - 5) No vehicles allowed on the APN without a rotating Amber LGT and permission FM APM
 - 6) No vehicles/persons are allowed entry into manoeuvring area without permission FM ATC.
 - 7) Instructions are only allowed to exit ACFT for the purpose of the student continuing with solo flying within the manoeuvring area. Students are to call for taxi instructions FM ATC before re-entering the manoeuvring area.
 - 8) All student pilots are to advise ATC on first CTC that they are conducting solo student flight training.
 - 9) Unless otherwise advised by ATC, pilots landing on RWY 11/29 may vacate onto RWY 24 and right onto TWY B.
 - 10) Airport services are available daily between the hours 0400-1800. Outside those operational hours as published in the AIP, the airport has zero services available and is unmanned by ANS and RFFS. It is the sole discretion of the pilot in command, and/or owner/operator of an ACFT operated after the termination of the airport services and/or before resumption to ensure that such operations are permissible. The onus rests upon the pilot in command, and/or owner/operator to ensure that the risk mitigation is in place for a safe operation of the aircraft and its occupants. The pilot in command and or owner/operator must comply to the required licensing requirements as approved for the operator.
- The pilot in command and or owner/operator must record and report to the aerodrome administrator all movements of aircraft conducted outside the stipulated hours of airport operations in the prescribed form which is made available by the airport. The prescribed form must be collected via email or hard copy from Airport Administration and returned to Airport Administration via email or hard copy.

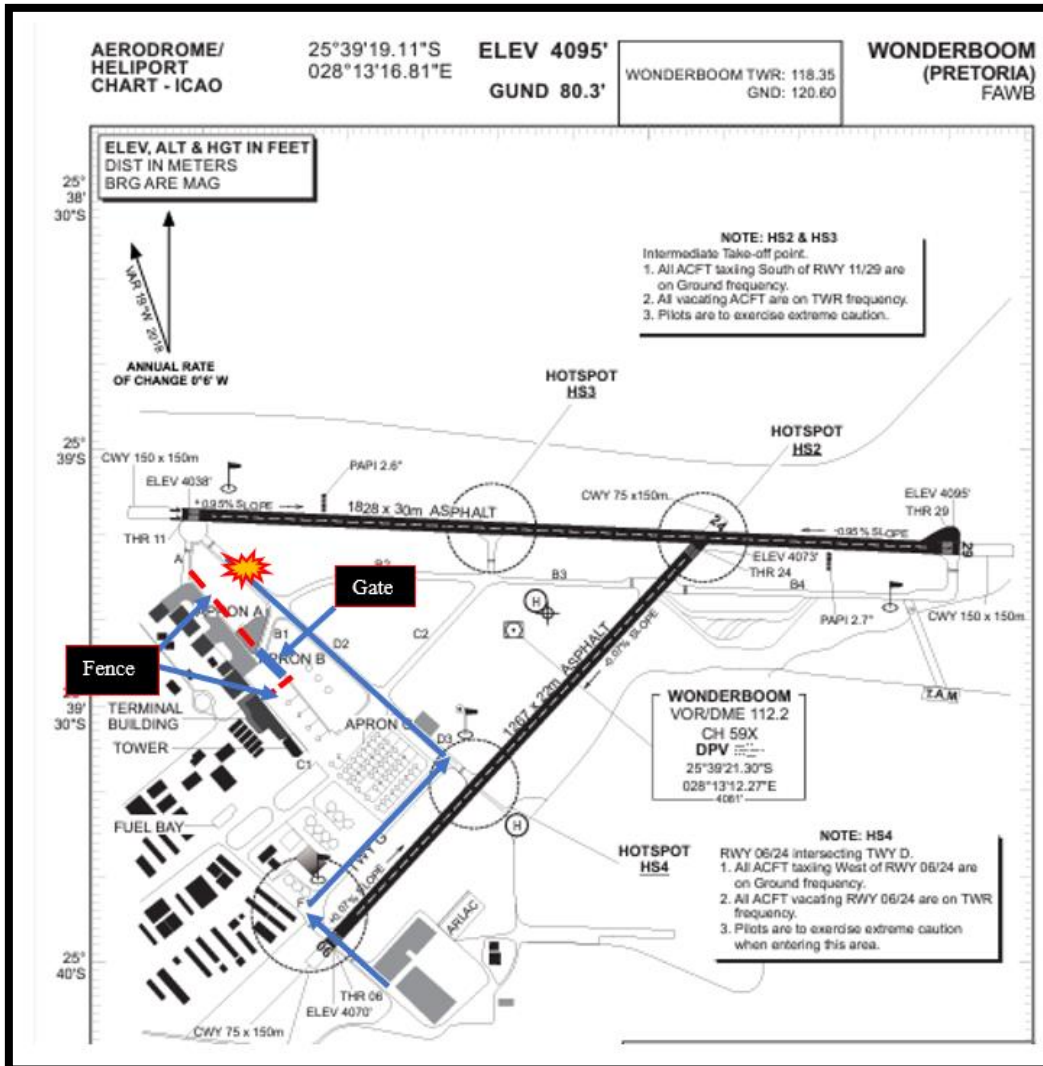


Figure 3: FAWB Chart; the blue lines indicating ZS-SPO taxi route.
 (Source: SACAA Aeronautical Information Publication [AIP])

1.11 Flight Recorders

1.11.1 None of the aircraft was equipped with the flight data recorder or the cockpit voice recorder. None was required to be fitted to the aircraft type.

1.12 Wreckage and Impact Information

1.12.1 The left wing of ZS-SPO impacted the right wing of ZS-SLY at a low speed whilst ZS-SPO manoeuvred around the stationary ZS-SLY. This resulted in minor damage to the wing tips of both aircraft. Both pilots shut down the engines of their aircraft after the incident.

1.12.2 The ARFF found both aircraft on Taxiway D and with minor damage. The left-wing tip of ZS-SPO was found resting on the right-wing leading edge of ZS-SLY; ZS-SPO faced north-west whilst ZS-SLY faced north.



Figure 4: The ZS-SPO and ZS-SLY wings position after the incident site. (Source: ATO)

1.13 Medical and Pathological Information

1.13.1 Not applicable.

1.14 Fire

1.14.1 There was no evidence of a pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 The occurrence was deemed survivable given that both aircraft's cabin areas had remained intact during the incident.

1.16 Tests and Research

1.16.1 None.

1.17 Organisational and Management Information

1.17.1 The ZS-SPO aircraft was authorised to operate under the ATO certificate that was issued on 31 December 2022 with an expiry date of 30 December 2023.

1.17.2 The aircraft maintenance organisation (AMO) that certified the inspection of ZS-SPO had an AMO approval certificate from the SACAA that was issued on 7 April 2023 with an expiry date of 31 March 2024.

1.17.3 The AMO that certified the inspection of ZS-SLY had an AMO approval certificate that was issued by the SACAA on 16 July 2023 with an expiry date of 31 July 2024.

1.18 Additional Information

1.18.1 On 27 January 2023, the investigator found that another SP had attempted to park or stop in front of an aircraft that was due for departure. Whilst the SP manoeuvred past the two parked aircraft, the left-wing tip of the SP's aircraft (ZS-SNS) struck the upper section of the right-wing tip fairing of ZS-EAD. As a result, the SP attempted to steer the aircraft to the left to avoid impacting the taxiway lights, but the left-wing tip of his aircraft impacted the right-wing bottom surface area of ZS-SCE.

The following recommendation was issued by the AIID to FAWB:

It is recommended the FAWB management consider erecting a designated engine run-up area near the holding point of RWY 11 to ensure sufficient aircraft separation as well as reduce delay for departing traffic.

1.18.2 The recommendation was shared with FAWB management on 8 April 2024. Airport management acknowledged receipt on 9 April 2024. FAWB is reviewing the recommendation.

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. ANALYSIS

2.1. General

From the available evidence, the following analysis was made with respect to this incident. This shall not be read as apportioning blame or liability to any organisation or individual.

2.2. Analysis

- 2.2.1 The SP was issued a SPL on 1 June 2023 with an expiry date of 31 May 2024. At 29.9 hours, the chief flying instructor (CFI) assessed the SP and found him competent. This was in accordance with the SACATS Part 61.02.7(1) which states: “*Failure to be recommended for solo flight after 30 hours (Aeroplane) or 40 hours (Helicopter) of dual flight training. A student pilot who fails to be recommended for solo flight after completing 30 (A) hours or 40 (H) hours of dual flight training, shall undergo a flight assessment by the CFI of the ATO where he or she is receiving flight training.*” The SP conducted his first solo flight at 34.6 hours.
- 2.2.2 The SP was properly licensed. The aircraft type rating was endorsed on his SPL. The SP had decided to taxi around the stationary aircraft which resulted in the left wing of ZS-SPO impacting the right wing of ZS-SLY at a low speed. The incident could have been avoided. The SP could have waited for the aircraft that was conducting the power checks to finish. Alternatively, the SP could have elected to use Taxiway Bravo (B) then proceed past Apron A and B to reach Taxiway A to access RWY 11. The ATC did not give the SP an option to use Taxiway A (mentioned above) to reach RWY 11 or hold behind ZS-SLY. It is possible that between the ATC and ATOs, it was ‘normal procedure’ (normalisation of deviation) for pilots to taxi around stationary aircraft on Taxiway D; hence, the ATC did not see the need to instruct the student pilot to hold behind ZS-SLY. Also, ZS-SLY was parked at the edge of the taxiway, making way for other aircraft to taxi around it. It is likely that the SP had taxied around a parked aircraft in the past whilst being accompanied by an instructor. It is also likely that taxiing past stationary aircraft was a ‘normal way of operation’ as it was also normal for aircraft to conduct power checks on the taxiway even though this was not the correct procedure.
- 2.2.3 There is a designated area for power checks near RWY 29 and RWY 24, and another run-up area near RWY 06. If RWY 11 is used, pilots utilise Taxiway D as a run-up area as there is no designated area available near RWY 11. The use of Taxiway D as a power check/run-up bay resulted in two SPs in separate occurrences impacting other aircraft which were conducting power checks on this taxiway. The AIID had issued the following recommendation: “*It is recommended to the FAWB management to consider erecting a designated engine run-up area before the holding point for Runway 11 to ensure sufficient aircraft separation and to reduce delay for departing traffic*”. The FAWB airport management is reviewing the recommendation.

The Aeronautical Information Publication (AIP), FAWB AD 2.20 LOCAL TRAFFIC REGULATIONS, revised on 15 October 2023, states the following: 1) Engine running only to be conducted on Designated Engine running area at Main windsock E of TWY D4. Taxi clearance to be obtained from Ground Movement Control, FREQ 120.60 MHz. 2) No PRKG by any ACFT is allowed on or close to any TWY this includes the taxiways located within

the APN and AD MOV area. During this time, all aircraft operators are to refrain from using any taxiway as engine-run or power-check areas as stated in the AIP and CAR Part 139.01.25.

- 2.2.4 After the accounts provided by both flight crew and ATC, as well as the meteorological data provided by the SAWS, it was determined that the meteorological conditions at the time of the incident were favourable for a visual flight. Therefore, the meteorological conditions did not contribute to this incident.

3. CONCLUSION

3.1. General

From the available evidence, the following findings, causes and contributing factors were made with respect to this incident. These shall not be read as apportioning blame or liability to any organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusion heading:

- **Findings** — are statements of all significant conditions, events, or circumstances in this incident. The findings are significant steps in this incident sequence, but they are not always causal or indicate deficiencies.
- **Causes** — are actions, omissions, events, conditions, or a combination thereof, which led to this incident.
- **Contributing factors** — are actions, omissions, events, conditions, or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the incident occurring, or would have mitigated the severity of the consequences of the incident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil, or criminal liability.

3.2. Findings

ZS-SPO Student Pilot

- 3.2.1 The SP was initially issued a Student Pilot Licence (SPL) on 1 June 2023 with an expiry date of 31 May 2024. The pilot had accumulated 40 hours of flight time of which 22.9 hours were on the aircraft type.
- 3.2.2 The pilot had a Class 2 medical certificate that was issued on 29 May 2023 with an expiry date of 31 May 2028 with no medical restriction.

ZS-SLY Pilot

- 3.2.3 The pilot was issued a Private Pilot Licence (PPL) on 9 September 2019. The pilot renewed his licence on 26 October 2022 with an expiry date of 31 October 2024. According to the pilot's logbook, he had 123 flight hours with 112.6 hours on the aircraft type.

3.2.4 The pilot's Class 2 medical certificate was issued on 11 March 2019 with an expiry date of 31 March 2024 with no restrictions.

ZS-SPO Aircraft

3.2.5 The ZS-SPO was issued a Certificate of Airworthiness (C of A) on 8 September 2010 with an expiry date of 30 September in 2024.

3.2.6 The aircraft was issued a Certificate of Release to Service (CRS) on 5 May 2023 with an expiry date of 4 May 2024 or at 11 095.6 airframe hours, whichever occurs first.

3.2.7 The aircraft was issued a Certificate of Registration (C of R) on 7 October 2015.

3.2.8 The latest maintenance inspection on the aircraft was certified on the 27 October 2023 at 11194.3 airframe hours. The aircraft had accrued 11 airframe hours since the last inspection.

ZS-SLY Aircraft

3.2.9 The ZS-SLY was issued a Certificate of Airworthiness (C of A) on 1 November 2011 with an expiry date of 30 November 2024.

3.2.10 The aircraft had a valid Certificate of Release to Service (CRS) that was issued on 17 August 2023 at 10 469.3 airframe hours with an expiry date of 16 August 2024 or at 10 569.3 airframe hours, whichever occurs first.

3.2.11 The aircraft was issued a Certificate of Registration on 25 May 2017.

Environment

3.2.12 Fine weather conditions prevailed at the time of the incident.

3.2.13 The ZS-SPO impacted ZS-SLY during taxi on taxiway D in visual meteorological conditions by day.

3.2.14 There is a designated area for engine power checks near RWY 29 and RWY 24, and another run-up area near RWY 06. If RWY 11 is used, pilots utilise Taxiway D as a run-up area as no designated area is available near this runway.

Approved Training Organisations (ATO)

3.2.15 The ZS-SPO ATO had a valid ATO Certificate that was issued by the Regulator. The ZS-SLY was operating a private flight. Both flights were duly authorised and adhered to the standards operating procedures laid out by the ATO and the operator.

3.3. Probable Cause/s

3.3.1. The ZS-SPO's left wing impacted the right wing of the stationary ZS-SLY during taxi to RWY 11.

3.4. Contributory Factor/s

3.4.1. The ZS-SPO pilot misjudged the clearance distance between the two aircraft wings.

4. SAFETY RECOMMENDATIONS

4.1. General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation. They are based on the conclusions listed in heading 3 of this report. The AIID expects that all safety issues identified by the investigation are addressed by the receiving States and organisations.

4.2. Safety Recommendations:

4.2.1 It is recommended that the airport management create a run-up area near RWY 11 to prevent similar incidents from recurring. It is also recommended that the use of all taxiways as engine-run areas be prohibited to avoid such incidents.

4.2.2 Safety message

4.2.2.1 It is advised that this incident report be disseminated to the flight crew involved in these incidents, as well as to other student pilots to raise awareness and mitigate the likelihood of a recurrence.

5. APPENDICES

5.1. None.

This report is issued by:

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