



AIRCRAFT SERIOUS INCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:		CA18/3/2/1435	
Aircraft Registration	ZS-TDJ/ZU-IJR	Date of Incident	16 December 2023		Time of Incident	0740Z	
Type of Aircraft	Piper PA-28-161			Type of Operation	Training (Part 141)		
Pilot-in-command Licence Type	Student Pilot Licence		Age	21	Licence Valid	Yes	
Pilot-in-command Flying Experience	Total Flying Hours		80	Hours on Type	80		
Last Point of Departure	George Airport (FAGG), Western Cape Province						
Next Point of Intended Landing	George Airport (FAGG), Western Cape Province						
Damage to Aircraft	None						
Location of the incident site with reference to easily defined geographical points (GPS readings if possible)							
At Plettenberg Bay Airport during approach for a touch-and-go landing on Runway 30							
Meteorological Information	Wind direction: 20°; Wind Speed: 7kt; Air Temperature: 20°C; Dew Point: 15°C; Visibility: 9999m						
Number of People On-board	1+0 ZS-TDJ	Number of People Injured	0	Number of People Killed	0	Other (On Ground)	0
	1+0 ZU-IJR		0		0		0
Synopsis							
<p>On 16 December 2023 at approximately 0630Z, a student pilot on-board a Piper PA28-161 aircraft with registration ZS-TDJ was on a training flight from George Airport (FAGG) in the Western Cape province; he intended to land back at the same take-off airport. The student pilot's planned route comprised several aerodrome waypoints, including Plettenberg Bay Airfield (FAPG). Visual meteorological conditions (VMC) by day prevailed at the time of the flight which was conducted under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The ZS-TDJ take-off from FAGG was uneventful, and the student pilot proceeded to FAPG. Meanwhile, at about 0700Z, a Safari aircraft registered ZU-IJR departed Knysna Highway Airfield and routed to FAPG for a full-stop landing. The ZU-IJR pilot initially broadcasted inbound and was about 10 nautical miles (nm) west of FAPG. At the same time, another aircraft, a Cessna Citation with registration T7-KFL reported final approach for Runway 30 (RWY 30). The ZU-IJR pilot indicated it would establish a long downwind leg to accommodate T7-KFL. As ZU-IJR was approaching, about 5 nautical miles (nm) from FAPG, T7-KFL pilot confirmed runway visual and announced joining the left downwind leg for RWY 30. The ZU-IJR pilot acknowledged and descended to 1 200</p>							

feet (ft) to extend its downwind leg. Later, T7-KFL pilot reported a safe landing on RWY 30 and exited the active runway. Shortly after, ZS-TDJ student pilot broadcasted inbound for a touch-and-go landing at FAPG. Despite multiple aircraft within FAPG airspace at the time, no further communication from ZS-TDJ was received after this last broadcast. A pilot on-board a ZS-FFB aircraft requested clearance from ZU-IJR to backtrack to RWY 30 holding point. The ZU-IJR pilot agreed and adjusted its flight path to accommodate ZS-FFB. The ZS-FFB aircraft expedited movement and reported clear from the runway after reaching the holding point. Thereafter, ZU-IJR pilot reported turning left base for RWY 30; he intended to land on the grass area adjacent RWY 30. The ZS-FFB pilot (at the holding point) enquired from ZU-IJR if his position was acceptable, and ZU-IJR confirmed positive and that he planned to land further along the grass area.

Thereafter, ZS-FFB pilot observed ZU-IJR as it approached for landing with ZS-TDJ following closely at a slightly higher altitude. However, as there was no radio transmission received from ZS-TDJ to indicate the right base or short final, ZU-IJR proceeded to land on the grass area next to RWY 30 (beyond ZS-FFB's stationary aircraft at the holding point).

This serious incident highlights the importance of effective radio communication and situational awareness, particularly in busy unmanned airspace, to ensure safe operations of aircraft.

Probable Cause/s and/or Contributory Factors

Near-collision involving three aircraft due to lack of effective communication and violation of standard operational procedures by both pilots of ZU-IJR and ZS-TDJ aircraft.

- Ineffective communication during operation within an active unmanned aerodrome airspace.
- ZU-IJR flew over a stationary aircraft at a low height and landed on an unapproved space alongside the designated runway.

SRP Date	13 August 2024	Publication Date	19 August 2024
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Occurrence Details

Reference Number : CA18/3/2/1434
Occurrence Category : Category 1
Type of Operation : Training
Name of Operator : AIFA
Aircraft Registration : ZS-TDJ
Aircraft Make and Model : Piper PA-28-161
Nationality : South African
Place : Plettenberg Bay Airfield, Western Cape Province
Date and Time : 16 December 2023 at 0740Z
Injuries : None
Damage : 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.

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) was notified of the occurrence on 16 December 2023 at 0800Z. The occurrence was categorised as a serious incident according to the CAR 2011 Part 12 and the International Civil Aviation Organisation (ICAO) STD Annex 13 definitions. The notifications were sent to the State of Registry, Operator, Design and Manufacturer in accordance with the CAR 2011 Part 12 and the 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 investigation serious incident
Aircraft — the Piper PA-28-161 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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Abbreviation	Description
°	Degrees
'	Minute
"	Second
°C	Degrees Celsius
AIID	Accident and Incident Investigations Division
CAR	Civil Aviation Regulations
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CRS	Certificate of Release to Service
FAGG	George Airport
FAMO	Mossel Bay Airfield
Ft	Feet
hPa	Hectopascal
Kt	Knots
M	Metres
METAR	Meteorological Routine Aerodrome Report
SACAA	South African Civil Aviation Authority
SAWS	South African Weather Service
TCAS	Traffic Collision Avoidance System
QNH	Altitude Above Mean Sea Level
Z	Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich)

1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1. On Saturday, 16 December 2023 at around 0740Z, a near-miss incident involving three aircraft occurred on Runway 30 (RWY 30) at Plettenberg Bay Airfield (FAPG). The first aircraft was a Piper PA-28-161 with registration ZS-TDJ and call sign AVQ123, piloted by a student pilot who was on a solo navigational flight from George Airport (FAGG) in the Western Cape province with the intention to conduct a full stop landing at the same aerodrome. The aircraft was operated under Part 141 of the Civil Aviation Regulations (CAR) 2011 as amended. The second aircraft was a Safari-LSA with registration ZU-IJR which took off on a private flight with a pilot on-board from Highway Airfield in Knysna at approximately 0730Z, routing to Plettenberg Bay Aerodrome (FAPG), Western Cape province. The aircraft was operated under Part 94 of the CAR 2011 as amended. The third aircraft was a Cessna Citation with registration ZS-FFB which took off on a private flight from FAPG with the pilot on-board. The aircraft was operated under Part 91 of the CAR 2011 as amended. The flights were conducted under visual meteorological conditions (VMC) by day.
- 1.1.2. According to the student pilot (ZS-TDJ), his flight plan comprised several aerodrome waypoints around the Western Cape, including FAPG for unmanned joining procedures. Upon entering FAPG airspace, ZS-TDJ pilot received communication on the radio regarding ZS-FFB which was backtracking, and another aircraft registered ZU-IJR which was extending its downwind leg turn. The student pilot broadcasted his position; he reported inbound for FAPG at 2 500 feet (ft) above ground level (AGL) and descended to 1 500ft AGL for Runway 30 (RWY 30).
- 1.1.3. According to ZU-IJR pilot, upon arrival at FAPG, he maintained radio communication on very high frequency (VHF) 124.8 Megahertz (MHz) whilst listening to George Airport's (FAGG) approaching traffic on frequency 128.20 MHz. Approximately 10 nautical miles west of FAPG, ZU-IJR pilot broadcasted inbound for FAPG at 1 500ft AGL whilst flying along the coastline. Meanwhile, a pilot from T7-KFL aircraft reported that he was on final approach for RWY 30 at FAPG. At about 5 nautical miles west of FAPG whilst ZU-IJR was on approach, T7-KFL pilot confirmed ZU-IJR's position on the Traffic Collision Avoidance System (TCAS) and had intended to join left downwind for RWY 30. The ZU-IJR pilot agreed to descend to 1 200ft AGL to increase separation between T7-KFL which safely landed and vacated RWY 30. The ZS-FFB pilot requested to enter the runway and backtrack from the apron to the holding point of RWY 30, and ZU-IJR pilot acknowledged and reported he would extend the left downwind for RWY 30 to accommodate ZS-FFB.
- 1.1.4. At this stage, ZS-TDJ student pilot broadcasted inbound for FAPG at 2 500ft AGL for unmanned joining procedure; he intended to descend to 1 500ft AGL for a touch-and-go landing. This was acknowledged by ZU-IJR pilot. Thereafter, there was no further communication received from the pilot. Later, the ZS-TDJ pilot flew overhead the threshold of RWY 30 and stated that he would be descending to 1 500ft on the dead side (right-side). Following the descent, ZS-TDJ student pilot reported he was joining the right-side circuit to conduct a touch-and-go landing on RWY 30.
- 1.1.5. According to ZS-FFB pilot, he expedited the backtracking to the holding point of RWY 30 and confirmed his position. Moments after, ZU-IJR reported turning left base for RWY 30 to land on the grass area alongside RWY 30; ZS-FFB pilot asked ZU-IJR pilot if he was positioned well enough for him to land. The ZU-IJR pilot confirmed that he was okay as he intended to land deeper. About a minute later, ZS-FFB pilot noticed ZU-IJR on short final approach with

a second aircraft (ZS-TDJ) close behind it but flying at a slightly higher altitude. Meanwhile, ZU-IJR flew over ZS-FFB and landed on the grass area alongside RWY 30. The ZS-TDJ aircraft followed and conducted a touch-and-go landing on RWY 30 without communicating on the radio. The ZS-TDJ student pilot's last broadcast was at downwind leg; thereafter, the aircraft was later observed following closely behind ZU-IJR at final approach for landing without reporting his position. After landing, ZU-IJR attempted to communicate with ZS-TDJ to suggest that more calls were needed but received no response. None of the aircraft was damaged, and no person was injured.

The serious incident occurred on RWY 30 at FAPG in visual meteorological conditions by day.



Figure 2: Aerial view of Plettenberg Bay Airfield. (Source: Google Earth)

1.2. Injuries to Persons

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
None	1	-	0	-	-
Total	1	-	0	-	-

Note: Other means people on the ground.

1.2.1. None of the aircraft's occupants sustained injuries during this serious incident.

1.3. Damage to Aircraft

1.3.1. None of the aircraft was damaged.

1.4. Other Damage

1.4.1. None.

1.5. Personnel Information

Student Pilot (ZS-TDJ)

Nationality	Egyptian	Gender	Male	Age	21
Licence Type	Student Pilot Licence (SPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	Class 2; 30 June 2027				
Restrictions	None				
Previous Incidents	None				

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

Flying Experience:

Total Hours	80
Total Past 24 Hours	2.7
Total Past 7 Days	5.4
Total Past 90 Days	33.4
Total on Type Past 90 Days	33.4
Total on Type	80

1.5.1 The student pilot, an Egyptian national, had a South African Student Pilot Licence (SPL) that was initially issued by the Regulator (SACAA) on 13 July 2022 with an expiry date of 23 July 2024. His Class 2 medical certificate was issued on 21 June 2023 with an expiry date of 30 June 2024 with no restrictions. The aircraft type was endorsed on the student pilot's licence; his training was also conducted on the aircraft type. The student pilot accumulated approximately 80 flying hours between 16 August 2022 and 16 December 2023. The student pilot's language proficiency is Level 6, which is exceptional according to the Regulatory requirements. Post-incident follow-up which was conducted telephonically revealed the pilot's difficulty in understanding some of the posed questions as English was not his first language. Moreover, the answers to some of the questions were short and required prompting by the investigator for clarity.

Pilot (ZU-IJR)

Nationality	South African	Gender	Male	Age	53
Licence Type	Commercial Pilot Licence (CPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	Class 1; 30 November 2024				
Restrictions	VML (correction for defective distant, intermediate and near vision) and SSL (Special restriction as specified XARALTA treatment)				

Previous Incidents	None
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Note: Previous incidents refer to past incidents the pilot was involved in, when relevant to this serious incident.

Flying Experience:

Total Hours	1 701.5
Total Past 24 Hours	1.3
Total Past 7 Days	2.7
Total Past 90 Days	28.5
Total on Type Past 90 Days	7.3
Total on Type	367.3

1.5.2 The pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator on 23 January 2015. His renewed licence was issued on 22 February 2023 with an expiry date of 29 February 2024. The pilot’s Class 1 medical certificate was issued on 3 November 2023 with an expiry date of 30 November 2024 with no restrictions. The pilot’s language proficiency is Level 6 which is exceptional according to the Regulatory requirements.

1.6. Aircraft Information

The information below is an extract from the aircraft Pilot’s Operation Handbook (POH)

1.6.1. *The Piper PA-28 Cherokee is a family of light aircraft built by Piper Aircraft and designed for flight training, air taxi and personal use. The PA-28 family of aircraft is all-metal, unpressurised, single-engine, piston-powered airplanes with low-mounted wings and tricycle landing gear. They have a single door on the co-pilot side with the wing used as a step.*

Airframe:

Manufacturer/Model	Piper Aircraft Corporation / PA28-161	
Serial Number	2842393	
Year of Manufacture	2012	
Total Airframe Hours (At Time of Serious incident)	4 644.5	
Last Inspection (Date & Hours)	31 October 2023	4 594.4
Hours Since Last MPI	50.1	
CRS Issue Date	31 October 2023	
C of A (Issue Date & Expiry Date)	18 October 2023	31 October 2024
C of R (Issue Date) (Present Owner)	21 September 2023	
Type of Fuel Used	Avgas 100LL	
Operating Category	Part 141	
Previous Incidents	None	

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

Engine:

Manufacturer/Model	Lycoming / O-320-D3G
Serial Number	L-20569-39E
Hours Since New	4644.5
Hours Since Overhaul	496.9

Propeller:

Manufacturer/Model	Sensenich / 74DM6-O-60
Serial Number	A 63261
Hours Since New	4644.5
Hours Since Overhaul	496.9

1.6.2. A review of the aircraft maintenance records such as logbooks (airframe, engine and propeller) and mandatory periodic inspections (MPI) was conducted. Manufacturer's issued Service Bulletin (SB), Service Instruction (SI) and Technical Service Instructions (TSI) were adhered to. The aircraft had a valid Certificate of Airworthiness (C of A) that was issued by the Regulator on 18 October 2023 with an expiry date of 31 October 2024. The last MPI was conducted after which the Certificate of Release to Service (CRS) was issued on 31 October 2023.

1.6.3. The following information is an extract from the POH

A Safari light sport aircraft (LSA) is an amateur build aircraft manufactured by Kitplanes for Africa of South Africa. The is a single engine equipped with low wings and a fixed landing gear system.

Airframe:(ZU-IJR)

Manufacturer/Model	Kitplanes for Africa (PTY) Ltd / Safari - LSA	
Serial Number	25-01-16 SAF	
Year of Manufacture	2012	
Total Airframe Hours (At Time of Serious incident)	440.6	
Last Inspection (Date & Hours)	4 November 2023	431.6
Hours Since Last Annual Inspection	9	
CRS Issue Date	31 October 2023	
ATF (Issue Date & Expiry Date)	13 March 2023	28 February 2024
C of R (Issue Date) (Present Owner)	14 March 2019	
Type of Fuel Used	Avgas 100LL	
Operating Category	Part 94	
Previous Incidents	None	

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

Engine:

Manufacturer/Model	Rotax / 912ULGT
Serial Number	6772172
Hours Since New	440.6
Hours Since Overhaul	TBO not yet reached

Propeller:

Manufacturer/Model	IVO / No model
Serial Number	DR3/72/36452
Hours Since New	440.6
Hours Since Overhaul	TBO not yet reached

- 1.6.4. A review of the maintenance records revealed that the aircraft was maintained in accordance with the manufacturer's prescribed procedures as stipulated in the maintenance manual. The aircraft had a valid Authority to Fly (ATF) Certificate that was issued by the Regulator on 13 March 2023 with an expiry date of 28 February 2024. The last annual inspection of the aircraft was certified on 4 November 2023 at 431.6 airframe hours. The Certificate of Release to Service (CRS) was issued on 4 November 2023 at 431.6 airframe hours with an expiry date of 3 November 2024 or at 531.6 airframe hours, whichever comes first.

1.7. Meteorological Information

- 1.7.1. The weather information below was obtained from the pilot's questionnaire, recorded at FAPG.

Wind Direction	20°	Wind Speed	7kt	Visibility	9999m
Temperature	20°C	Cloud Cover	None	Cloud Base	None
Dew Point	15°C	QNH	TBA		

1.8. Aids to Navigation

- 1.8.1. The aircraft was equipped with standard navigational equipment as approved by the Regulator. There were no records of defects on any of the aircraft's navigational systems during the flight.

1.9. Communication

- 1.9.1. Both aircraft were equipped with a standard communication system as approved by the Regulator. There were no recorded defects with the communication system on both aircraft during the flight. All radio communication within the vicinity of the airfield was conducted using frequency 124.8 MHz.

1.10. Aerodrome Information

- 1.10.1. Plettenberg Bay Airfield (FAPG) is unmanned with a single asphalt runway. There is no other designated landing area on the airfield.
- 1.10.2. According to ZU-IJR pilot, he landed the aircraft on the grass area on the right side of RWY 30.

The information below should be taken into consideration when operating at FAPG:

- All traffic departures are to contact FACT ACC E on 124.70 MHz passing 2 000ft ALT before requesting clearance from FAGG APP.
- Pilots to exercise caution due to glider activity taking place between sunrise and sunset at Stanley Island, 1200ft AMSL-GND, 34° 01' 00"S, 023° 24' 00"E, broadcast on 124.8 MHz.
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Note: The above information does not contain information that defines/dictates the circuit pattern at the airfield.

Aerodrome Name	Plettenberg Bay Aerodrome (FAPG)
Aerodrome Location	Western Cape Province
Aerodrome Status	Licensed
Aerodrome GPS coordinates	34°5'17.7" South, 023°19'45.4" East
Aerodrome Elevation	465 feet (ft)
Runway Headings	13/30
Dimensions of Runway Used	1 240m X 20m
Heading of Runway Used	30
Surface of Runway Used	Asphalt
Approach Facilities	None
Radio Frequency	124.8MHz

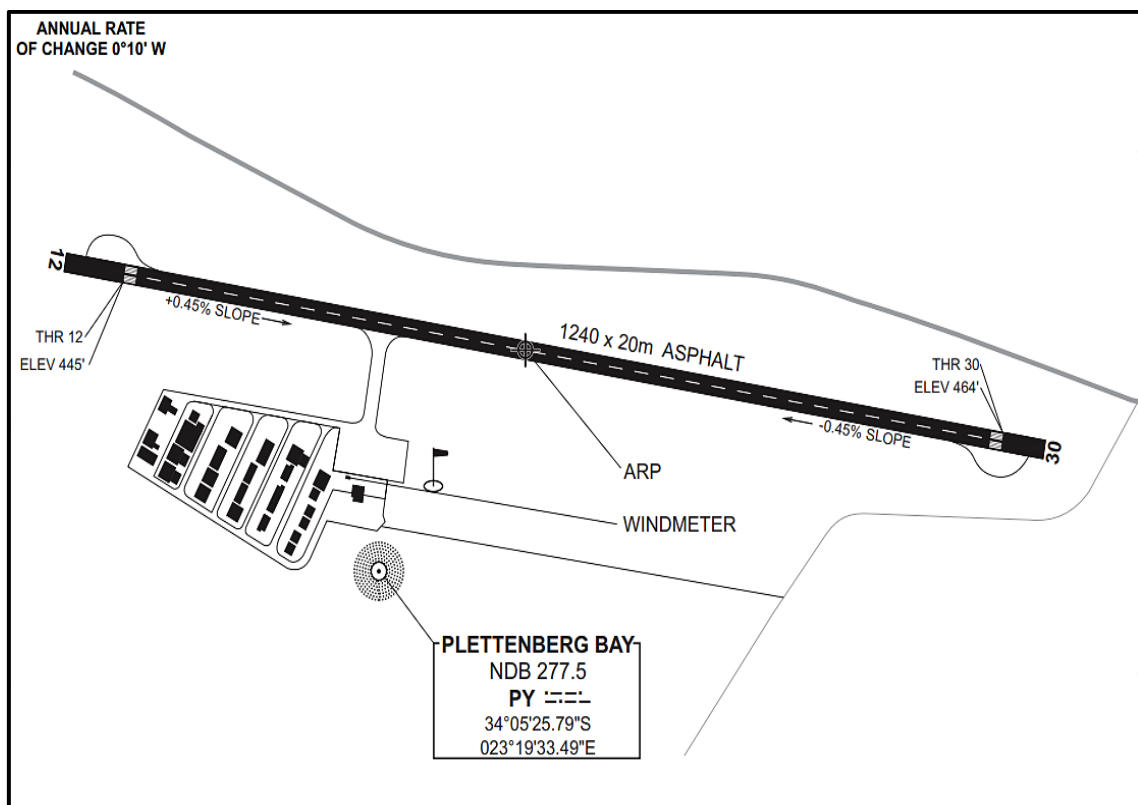


Figure 3: Schematic Diagram of FAPG. (Source: Regulator information for industry)

1.10.3 Unmanned Airfield Joining Procedure

The information below is an extract from the Civil Aviation Regulations Part 91: General Operations of Aircraft in the Vicinity of an Aerodrome.

Operation on and in the vicinity of an aerodrome.

Right of way

91.06.7 (1) *An aircraft which has the right-of-way, shall maintain its heading and speed, but nothing in these provisions shall relieve the PIC of an aircraft from the responsibility of taking such action as will best avert collision, including collision avoidance manoeuvres based on resolution advisories provided by ACAS equipment.*

(2) *An aircraft which is obliged, by the provisions of this Subpart, to keep out of the way of another aircraft, shall avoid passing over or under the other aircraft, or crossing ahead of such aircraft, unless passing well clear, taking into account the effects of wake turbulence.*

(3) *When two aircraft are approaching head-on or approximately so and there is danger of collision, each aircraft shall alter its heading to the right.*

91.06.12 (1) *The PIC of an aircraft operated on or in the vicinity of an aerodrome, shall be responsible for compliance with the following rules—*

(a) *observe other aerodrome traffic for the purpose of avoiding collision;*

(b) *conform with or avoid the pattern of traffic formed by other aircraft in operation;*

(c) *make all turns to the left when approaching for a landing and after taking off, unless otherwise instructed by an ATSU, or unless a right-hand circuit is in force: Provided that a helicopter may, with due regard to other factors and when it is in the interest of safety, execute a circuit to the opposite side;*

(d) *land and take-off, as far as practicable, into the wind unless safety, the runway configuration, or air traffic considerations dictate that a different direction is preferable, or unless otherwise instructed by an ATSU; and*

(e) *fly across the aerodrome or its environs at a height of not less than 2 000 ft above the level of such aerodrome: Provided that if circumstances require such PIC to fly at a height of less than 2 000 ft above the level of the aerodrome, he or she shall conform with the traffic pattern at such aerodrome.*

(2) *If an aerodrome control tower is in operation, the PIC shall also, whilst the aircraft is within the aerodrome traffic zone—*

(a) *maintain a continuous radio watch on the frequency of the aerodrome control tower responsible for providing aerodrome control service at the aerodrome, establish two-way radio communication as necessary for aerodrome control purposes and obtain such clearances for his or her movements as may be necessary for the protection of aerodrome traffic; or*

(b) *if this is not possible, keep a watch for and comply with such clearances and instructions as may be issued by visual means.*

(3) *If an aerodrome flight information service unit is in operation, the PIC shall also, whilst the aircraft is within the aerodrome traffic zone—*

(a) *maintain a continuous radio watch on the frequency of the aerodrome flight information service unit responsible for providing aerodrome flight information service at the aerodrome, establish two-way radio communication as necessary*

for aerodrome flight information service purposes and obtain information in respect of the surface wind, runway in use and altimeter setting and in respect of aerodrome traffic on the manoeuvring area and in the aerodrome traffic zone; or

Mandatory radio communication in advisory airspace

91.06.17 *The PIC of an aircraft shall ensure that before the aircraft approaches or enters advisory airspace—*

(a) two-way radio communication with the responsible ATSU is established on the designated radio frequency;(b) if such communication is not possible, two-way radio communication is established with any ATSU that is capable of relaying messages to and from the responsible ATSU; or

(c)if such communication is not possible, broadcasts are made on the designated radio frequency giving information on the aircraft's intention to enter the airspace, and such PIC shall ensure that, while the aircraft is within the advisory airspace and until it departs therefrom, a continuous radio watch is maintained on the designated radio frequency and that—

(i) such further two-way radio communication as the responsible ATSU may require is established with any other ATSU which is capable of relaying messages to and from such responsible ATSU;

(iii) if such communication is not possible, broadcasts are made on the designated radio frequency giving information on passing reporting points and when leaving the airspace concerned: Provided that—

(bb) in the case of a radio failure, a flight for which an air traffic service flight plan was filed and activated by an ATSU on receipt of a departure time, may continue in advisory airspace if the communication failure procedures specified in technical standard 91.06.16 of Document SA-CATS 91 are complied with.

1.11. Flight Recorders

1.11.1. The aircraft was neither equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted to the aircraft type.

1.12. Wreckage and Impact Information

1.12.1. There was no damage to any of the aircraft during the occurrence.

1.13. Medical and Pathological Information

1.13.1. None.

1.14. Fire

1.14.1. None.

1.15. Survival Aspects

1.15.1. All occupants of the three aircraft survived the serious incident as there was no collision involved.

1.16. Tests and Research

1.16.1. None.

1.17. Organisational and Management Information

1.17.1. The ZS-TDJ aircraft was on a solo navigational flight under the provisions of Part 141 of the CAR 2011 as amended.

1.17.2. The aircraft maintenance organisation (AMO) which conducted maintenance on the aircraft had an AMO Certificate that was issued by the Regulator on 25 October 2023 with an expiry date of 31 January 2024.

1.17.3. The Approved Training Organisation (ATO) which operated the aircraft had the ATO Certificate that was issued by the Regulator on 1 November 2020 with an expiry date of 30 November 2025. The ATO's training operation specifications certificate was issued on 20 March 2023 with an expiry date of 30 November 2023; the aircraft type was endorsed on it.

1.17.4. The ZU-IJR was operated as a private flight under the provisions of Part 94 of the CAR 2011 as amended.

1.18. Additional Information

1.18.1. The ATO has an Unmanned Joining Procedure NOP-1.26 which is included in its standard operating procedures (SOP).

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 serious incident. This shall not be read as apportioning blame or liability to any organisation or individual.

2.2 Analysis

- 2.2.1 The ZS-TDJ student pilot is an Egyptian national with a South African Student Pilot Licence (SPL) that was initially issued by the Regulator on 13 July 2022 with an expiry date of 23 July 2024. His Class 2 medical certificate was issued on 21 June 2023 with an expiry date of 30 June 2024 with no restrictions. The student pilot had Level 6 language proficiency which is exceptional according to the regulatory requirements.
- 2.2.2 The aircraft type was endorsed on the student pilot's licence and his training was conducted on the same aircraft type. The student pilot accumulated approximately 80 flying hours between 16 August 2022 and 16 December 2023.
- 2.2.3 The ZU-IJR pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator on 23 January 2015. His renewed licence was issued on 22 February 2023 with an expiry date of 29 February 2024. The pilot's Class 1 medical certificate was issued on 3 November 2023 with an expiry date of 30 November 2024 with no restrictions.
- 2.2.4 The ZS-TDJ aircraft had a valid Certificate of Airworthiness (C of A) that was issued by the Regulator on 18 October 2023 with an expiry date of 31 October 2024.
- 2.2.5 The ZU-IJR aircraft had a valid Authority to Fly (ATF) Certificate that was issued by the Regulator on 13 March 2023 with an expiry date of 28 February 2024.
- 2.2.6 The mandatory periodic inspection (MPI) on ZS-TDJ was conducted and a Certificate of Release to Service (CRS) was issued on 31 October 2023.
- 2.2.7 An annual inspection on ZU-IJR was conducted and a Certificate of Release to Service (CRS) was issued on 4 November 2023 at 431.6 airframe hours with an expiry date of 3 November 2024 or at 531.6 airframe hours, whichever comes first.
- 2.2.8 The aircraft maintenance organisation (AMO) which conducted maintenance on ZS-TDJ had an AMO Certificate that was issued by the Regulator on 25 October 2023 with an expiry date of 31 January 2024.
- 2.2.9 The Approved Training Organisation (ATO) for ZS-TDJ aircraft had an ATO Certificate that was issued by the Regulator on 1 November 2020 with an expiry date of 30 November 2025. The ATO's training operation specifications certificate was issued on 20 March 2023 with an expiry date of 30 November 2023; the aircraft type was endorsed on it.
- 2.2.10 According to the schematic for FAPG, there is a single runway designated 12/30. There is no indication of a grass runway, but rather a grass-covered area on the right of the main runway in use. The ZU-IJR, during landing on a grass area, flew above an aircraft that was stationary at the holding point, awaiting departure.
- (a) It is not known why the pilot of ZU-IJR landed on the grass area as there is one designated runway. It is the investigator's opinion that the pilot of the ZU-IJR was aware of ZS-TDJ aircraft which was behind (his aircraft) during short final approach, and he (ZU-IJR) intentionally avoided a collision. The ZU-IJR pilot stated that he intended to land on the grass area alongside the runway in use; he further stated that he only became aware of ZS-TDJ during landing when the aircraft executed a touch-and-go landing. The pilot's decision to land on the grass alongside the active runway

prevented a catastrophic near-collision due to a lack of communication with ZS-TDJ during short final approach for landing RWY 30.

- (b) According to the pilot's statement, landing on the grass alongside the designated runway at the airfield has been normalised for aircraft operating in the vicinity of the airfield. During landing, ZU-IJR pilot intentionally flew over a stationary aircraft at the holding point of RWY 30 which was awaiting to enter the runway for take-off. The pilot's actions conflicted with the required standard operation procedure for air rules as stipulated in Part 91 Subpart 91.06.7 (2) of the CAR which prohibits aircraft from flying over another aircraft at a low level.

2.2.11 The ZS-TDJ student pilot was engaged in a training flight; the student pilot also did not communicate effectively during his approach, short final and touch-and-go landing phases at FAPG. The student pilot's lack of effective communication nearly resulted in a near-collision. Although the student pilot stated that he communicated his intentions, it was mentioned by the other two pilots that they do not recall the student pilot communicating during the short final approach. Whilst at 5nm from FAPG, ZU-IJR heard ZS-TDJ broadcast its inbound status for FAPG and the intention to conduct a touch-and-go landing. No further communication was transmitted by ZS-TDJ. After the ZS-TDJ touch-and-go landing, both ZU-IJR and ZS-FFB attempted to contact ZS-TDJ but to no avail. There was no challenge with the aircraft radios during the flight. The student pilot reported at all necessary points, according to his statement.

2.2.12 Although the student pilot had an SPL licence with Level 6 language proficiency, he often experienced difficulties during operational communication and was not engaging effectively.

3 CONCLUSION

3.1 General

From the available evidence, the following findings, causes and contributing factors were made with respect to this serious 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 serious 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 serious incident occurring, or would have mitigated the severity of the consequences of the serious 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

- 3.2.1 The ZS-TDJ pilot is an Egyptian national with a South African Student Pilot Licence (SPL) that was initially issued by the Regulator on 13 July 2022 with an expiry date of 23 July 2024. His Class 2 medical certificate was issued on 21 June 2023 with an expiry date of 30 June 2024 with no restrictions. The student pilot had a Level 6 language proficiency which is exceptional according to the regulatory requirements.
- 3.2.2 The aircraft was endorsed on the student pilot's licence, and his training was conducted on the aircraft type. He accumulated approximately 80 flying hours between 16 August 2022 and 16 December 2023.
- 3.2.3 The ZU-IJR pilot had a CPL that was initially issued by the Regulator on 23 January 2015. His renewed licence was issued on 22 February 2023 with an expiry date of 29 February 2024. The pilot's Class 1 medical certificate was issued on 3 November 2023 with an expiry date of 30 November 2024 with no restrictions.
- 3.2.4 The ZS-TDJ aircraft had a valid Certificate of Airworthiness (C of A) that was issued by the Regulator on 18 October 2023 with an expiry date of 31 October 2024.
- 3.2.5 The ZU-IJR aircraft had a valid Authority to Fly (ATF) Certificate that was issued by the Regulator on 13 March 2023 with an expiry date of 28 February 2024.
- 3.2.6 The mandatory periodic inspection (MPI) on ZS-TDJ was conducted and a Certificate of Release to Service (CRS) was issued on 31 October 2023.
- 3.2.7 The annual inspection on ZU-IJR was conducted and a Certificate of Release to Service (CRS) was issued on 4 November 2023 at 431.6 airframe hours with an expiry date of 3 November 2024 or at 531.6 airframe hours, whichever comes first.
- 3.2.8 The ZS-FFB pilot observed ZS-TDJ student pilot who was following closely behind ZU-IJR; ZS-TDJ was at a slightly higher altitude during final approach for landing RWY 30. Both pilots were aware of each other's intentions but failed to keep check of each other's position. The ZU-IJR confirmed that whilst he was 5nm away from FAPG, he heard ZS-TDJ broadcast his inbound status and intentions, however, there was no further communication broadcasted by ZS-TDJ. The aerodrome's frequency was busy on the day and ZU-IJR kept constant communication with other aircraft that were active. The ZS-TDJ pilot did not report on final approach for landing RWY 30.
- 3.2.9 The ZU-IJR pilot violated Regulation Part 91 Subpart 91.06.7 (2) which restricts aircraft from flying over stationary aircraft at low level; ZS-FFB was positioned at the runway holding point for take-off whilst ZU-IJR landed on the grass area next to the runway in use.
- 3.2.10 The ZS-TDJ pilot had difficulty communicating with the investigator during the follow-up phase of the investigation although his licence stated that he was proficient in English with a Level 6 grading.

3.3 Probable Cause/s

- 3.3.1 Near-collision involving three aircraft due to a lack of effective communication, as well as a violation of standard operating procedures by both pilots of ZU-IJR and ZS-TDJ.

3.4 Contributory Factor/s

- 3.4.1 Ineffective communication during operation within an active unmanned aerodrome airspace.
- 3.4.2 Flying over a stationary aircraft at low height and landing on an unapproved area alongside a designated runway.

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 and 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 Recommendation/s

- 4.2.1 It is recommended that the Director of Civil Aviation conducts a thorough audit at the Approved Training Organisation and provide language proficiency guidance that should include written and spoken language proficiency to enhance safe flight operations by foreign pilots whose English is a second language of instruction in their countries of origin.

5 APPENDICES

- 5.1 None.

**This report is issued by:
Accident and Incident Investigations Division
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