



**LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL**

<b>Reference Number</b>	CA18/3/2/1545						
<b>Classification</b>	Serious Incident	<b>Date</b>	26 April 2026		<b>Time</b>	1235Z	
<b>Type of Operation</b>	Private (Part 94)						
<b>Location</b>							
Place of Departure	Orient Airfield (FAOI), Gauteng Province		Place of Intended Landing	El Mirador Airfield (FALQ), KwaZulu-Natal Province			
Place of Occurrence	On Runway 29 at Reitz Airfield (FARZ), Free State Province						
GPS Co-ordinates	Latitude	27°47'3.81" S	Longitude	28°25'40.93" E	Elevation	5 331 feet	
<b>Aircraft Information</b>							
Registration	ZS-GUE						
Make; Model; S/N	Super Dimona; HK-36TTC (Serial Number: 36-539)						
Damage to Aircraft	Minor		Total Aircraft Hours	1 490.4			
<b>Pilot-in-command</b>							
Licence Type	National Pilot Licence (NPL)		Gender	Male		Age	67
Licence Valid	Yes	Total Hours	2 354		Total Hours on Type	139	
Total Hours 30 Days	7		Total Flying on Type Past 90 Days	7			
<b>People On-board</b>	1 + 1	<b>Injuries</b>	0	<b>Fatalities</b>	0	<b>Other (on ground)</b>	0
<b>What Happened</b>							
<p>On Sunday, 26 April 2026, a pilot and a passenger on-board a Super Dimona HK-36TTC aircraft registered ZS-GUE took off on a private flight from Orient Airport (FAOI) in Gauteng province to El Mirador Airfield (FALQ) in Drakensberg, KwaZulu-Natal province. The flight was conducted under visual meteorological conditions (VMC) 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 conducted a pre-flight inspection of the aircraft and no anomalies were noted. The aircraft flight folio page serial number 8143 showed that 60 litres (L) of Avgas 100LL was uplifted, bringing the total to 90L in the tank. At about 1000Z, the aircraft commenced with the take-off roll from Runway 36 and rotated. It climbed to 7 500 feet (ft), travelling at a speed of 150 knots (kts). En route to FALQ whilst overhead Warden in Free State province, the pilot scanned the instruments and noticed that the engine temperature indication was abnormally high; the needle indicated 100 degrees Celsius (abnormal). According to the aircraft Pilot's Operating Handbook (POH), the temperature should not exceed 90 degrees Celsius. As a precaution, the pilot diverted to Reitz Airfield (FARZ) located west of Warden. At about 1130Z, he safely landed the aircraft on the grass surface Runway 29.</p>							

After landing, the pilot taxied the aircraft to the apron and switched off the engine; thereafter, he disembarked with the passenger. After disembarking, the pilot opened the top engine cowling and discovered a water/coolant leak on the rubber hose clamp that connects to the radiator. The defect was rectified and the radiator was filled with water. The pilot performed the engine ground run with the top engine cowling removed, and all the parameters indicated normal. He then switched off the engine and put back the top engine cowling.

The pilot decided to continue with the flight to FALQ. At this time, there was about 70L of fuel in the tank. The pilot and the passenger embarked the aircraft. At 1230Z, the pilot taxied to the threshold of Runway 29; he opened the throttle to 5 150 revolutions per minute (rpm) and commenced with the take-off roll. During the take-off roll, the aircraft veered off to the left. He then applied the right rudder to recover the aircraft, but without success. The aircraft exited the runway during which it ground looped. The nose gear strut broke off, and the propellers struck the soft ground. The aircraft sustained minor damage. No person was injured.



**Figure 1:** An aerial view of the Reitz Airfield (FARZ) Runway 29 (yellow dotted lines) and take-off direction (red arrow). (Source: Google Earth)



**Figures 2 and 3:** The damaged nose gear strut (left picture); the damaged propeller blades (right picture).  
(Source: Pilot)

Aircraft Description (Source: Pilot's Operating Handbook)

*The Super Dimona HK-36TTC is a high-performance, single-engine two-seat (side-by-side) touring motor glider (TMG) designed by Wolf Hoffman and currently manufactured by Diamond Aircraft Industries GMBH in Austria. The aircraft is powered by a Rotax 914F engine, whose propeller rotates in clockwise direction (viewing from inside the cockpit).*



**Figure 4:** The file picture of ZS-GUE aircraft. (Source: [Diamond HK-36TC-115 Super Dimona - | Aviation Photo #4763997 | Airliners.net](#))

Left-turning Tendencies of an Aircraft (Source: <https://www.aopa.org/news-and-media/all-news/2014/october/flight-training-magazine/technique--left-turning-tendencies>)

*A pilot operating the aircraft should be aware, skilled and alert to handle this aerodynamic phenomenon carefully. Otherwise, with a clockwise rotating propeller the aircraft will veer towards left during the take-off roll.*

*A left turning tendency occurred due to four distinct forces/effects: Torque, P-factor, spiral slipstream and gyroscopic precession. Torque and spiral slipstream effects are more prominent during take-off roll/high speed taxi.*

Torque: *As the engine is throttled for take-off, the right-turning direction of the engine produces a torque in right direction and as per Newton's third law a reaction force acts on the aircraft in left direction. This left direction reaction force tries to move the aircraft towards left.*

P-factor: *Asymmetric thrust causes the aircraft to turn left.*

Spiral slipstream or 'corkscrewing effect': *It happens when the propeller is moving fast and the aircraft is moving slowly. During take-off, air accelerated behind the prop (known as the slipstream) follows a corkscrew pattern. As it wraps itself around the fuselage of the aircraft and it hits the left side of the aircraft's tail, creating a yawing motion, and making the aircraft yaw left. This effect greatly depends on the aircraft design and the flight phase and would be difficult to quantify it.*

Gyroscopic precision: *During take-off the raising tail creates force on the top of the propeller. Since the propeller is spinning clockwise, that force is felt 90 degrees in the direction of rotation. That forward-moving force, on the right side of the propeller, creates a yawing motion to the left.*

*The above-mentioned forces tend to cause the aircraft to veer to its left during take-off. Therefore, right rudder is used to cancel them out and maintain a perfect centreline throughout the take-off roll.*

## **Findings**

### 1. Personnel

- 1.1 The pilot had a National Pilot Licence (NPL) that was initially issued by the Regulator (SACAA) on 28 February 2013. His licence was renewed on 23 October 2025 with validity until 7 October 2027.

- 1.2 The pilot had accumulated a total of 2 354 hours of which 139 were on the aircraft type.
- 1.3 The pilot was issued a Class 4 aviation medical certificate on 23 May 2025 with an expiry date of 31 May 2026. The pilot had the following restriction endorsed in his licence: *Valid only with correction for defective distant vision (VDL). Pilot must carry a spare pair of lenses when flying (SSL).*

2. Aircraft

- 2.1 The last 100-hour annual inspection of the aircraft was certified on 7 December 2025 at 1 448.12 total airframe hours. The aircraft had accrued 42.28 hours since the last annual inspection.
- 2.2 The aircraft was initially issued an Authority-to-Fly (ATF) Certificate on 22 January 2026 with an expiry date of 31 December 2026.
- 2.3 The Certificate of Registration (C of R) was issued to the present owner on 5 November 2010.
- 2.4 The Certificate of Release to Service (CSR) was issued on 7 December 2025 with an expiry date of 7 December 2026 or at 1 548.12 airframe hours, whichever occurs first.

**Probable Cause**

Loss of directional control during the take-off roll which resulted in the aircraft veering off to the left of the grass surface runway.

**Contributing Factors**

Inappropriate handling of the aircraft during the take-off roll.

**Safety Action(s)**

None.

**Safety Message and/or Safety Recommendations**

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 desk top enquiries to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar occurrence.*

*All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.*

<b>Purpose</b>
<i>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 promoting aviation safety and reducing the risk of aviation accidents or incidents, and not to apportion blame or liability.</i>
<b>Disclaimer</b>
<i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i>

**This report is issued by:**

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