

<b>AIRCRAFT ACCIDENT SHORT REPORT</b>
---------------------------------------

**CA18/2/3/9712:** The aircraft landed hard during aborted take off

**Date and time** : 23 May 2018, 16:01Z  
**Aircraft registration** : ZU-CWI  
**Aircraft manufacturer and model** : Aviate Products cc, Raptor  
**Last Point of departure** : Microland Airfield (FABA), Gauteng Province  
**Next point of intended landing** : Jakkalsdams Airstrip  
**Location of accident site with reference to easily defined geographical points (GPS readings if)** : Runway 03 (RWY03) clearway, FABA (GPS S25°58'34.0" E028°23'17.7")  
**Meteorological Information** : FALA 231600Z 30004KT 250V310 CAVOK 20/05 Q1026 NOSIG=  
**Type of operation** : Private, Part 94  
**Persons on board** : 1 + 1  
**Injuries** : 2  
**Damage to aircraft** : Substantial Damage

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

**Purpose of the Investigation:**

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (2011) this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or accidents and **not to apportion blame or liability.***

**Disclaimer:**

*This report is produced without prejudice to the rights of the CAA, which are reserved*

## 1 SYNOPSIS

- 1.1 On 23 May 2018 at 1601Z, the pilot accompanied by a passenger, were engaged in a pleasure flight from Microland to Jakkalsdans, a private strip near Lanseria International Airport (FALA). The pilot reported that during the take off, the aircraft could not gain altitude and the pilot elected to land the aircraft on the remaining runway.
- 1.2 The aircraft landed hard and veered off to the left of runway 03(RWY03). The aircraft sustained substantial damage to the landing gear and fuselage, the pilot and the passenger sustained minor injuries during the accident sequence.
- 1.3 The investigation revealed that the aircraft was rotated before reaching the required take-off speed and failed to climb. The pilot decided to land back on the remaining runway landing hard and veering off to the left of RWY03. The aircraft came to rest 150m from where the take-off roll started.

## 2 FACTUAL INFORMATION

- 2.1 On the 23<sup>rd</sup> May 2018 at 1600Z, a pilot accompanied by a passenger departed Microland Airfield (FABA) with the intention of flying to a private airstrip near FALA called Jakkalsdans. The intention of the flight was to fly 67 hours around South Africa. The wind direction was reported to be northerly at a speed of 05 knots. The pilot further reported that he suspected that there was a possible downdraft during the accident.
- 2.2 The pilot stated that the aircraft failed to gain height after rotation at 45 miles per hour(MPH). The Microlight required 50 metres for take off and RWY03 was 350 metres long. The pilot attempted to abort the take-off and land the aircraft on the remaining runway. The aircraft landed hard and veered off to the left of the runway.
- 2.3 The aircraft sustained substantial damage to the undercarriage, wings and fuselage. The pilot and the passenger sustained minor injuries but disembarked the aircraft unassisted.
- 2.4 According to the aircraft manual, the aircraft empty weight is 225 kg and the maximum take off weight is 450 kg. The pilot reported that he had 45 litres (32.4 kg) on board and the combined pilot and passenger weight was 144 kg. The total weight on take off was 401.4 kg (225 + 144 + 32.4) which is less than the maximum take off weight allowed by 48.6 kg.
- 2.5 Following the accident the aircraft was sold to another owner. The new owner reported that the engine was freely turning and there was no mechanical failure. The investigation was conducted off site.
- 2.6 The investigation revealed that the cause of the accident was as a result of the aircraft landing hard and veering off to the left of the RWY03. The reason why the aircraft did not climb could not be determined. The aircraft manufacturer indicated that the pilot may have rotated before the aircraft reached rotation speed or excessive angle of attack but there is no way of proving that probability.
- 2.7 The pilot had stated that maybe his airplane flew through a microburst had during take off. According to available weather records from the South African Weather Service, the conditions for a microburst did not exist at FABA or the vicinity at the time of accident.



**Figure 1: Microland Airfield from Google Earth**

### 3 FINDINGS

- 3.1 The pilot was issued with a valid national pilot licence on 19 July 1996, with an appropriate endorsement with an expiry date of 23 March 2019.
- 3.2 The pilot was issued with a valid class 4 medical certificate on 21 April 2017 with an expiry date of 30 April 2020.
- 3.3 The aircraft had no recorded defects on the flight folio prior to the flight that led to the incident and had a valid Authority to fly on 23 June 2017 with an expiry date of 22 June 2018.
- 3.4 The flight was conducted in fine VMC daylight weather conditions.
- 3.5 The aircraft sustained damages to the undercarriage, airframe and propeller.
- 3.6 The pilot and passenger sustained minor injuries during the incident sequence.
- 3.7 Following the accident the aircraft was sold to another owner. The new owner reported that the engine was freely turning and there was no mechanical anomalies.
- 3.8 The investigation revealed that the aircraft was rotated before reaching the required take-off speed and failed to climb. The pilot decided to land back on the remaining runway. The aircraft landed hard and sustained damage to the undercarriage and the pilot lost directional control. The aircraft veered off to the left of the runway before coming to a stop 150m from there the take-off roll started.

#### 4 PROBABLE CAUSE/CONTRIBUTING FACTOR

- 4.1 The aircraft rotated prior to reaching the required rotation speed and failed to climb. The pilot decided to land back on the remaining runway. The aircraft landed hard and the pilot lost directional control causing the aircraft to veer off to the left of the runway.



Figure 2: The aircraft as it came to rest.

#### 5 SAFETY RECOMMENDATION

- 5.1 None.