AIRCRAFT ACCIDENT SHORT REPORT

CA18/2/3/9694: ZS-MXN, Accident	**:** Loss of control after take off
Date and time	**:** 09 April 2018, 1400Z
Location	**:** Fisantekraal Airfield (FAFK), Western Cape Province
Occurrence type	**:** Accident
Aircraft registration	**:** ZS-MXN
Aircraft manufacturer and model	**:** S.A. Avions Pierre Robin DR500
Last Point of departure	**:** Fisantekraal Airfield (FAFK), Western Cape Province
Next point of intended landing	**:** Stellenbosch Airfield (FASH), Western Cape Province
Location of accident site with reference to easily defined geographical points (GPS readings if possible)	**:** Left of Runway 23 (RWY23),FAFK,33°46'17.0'' S 018°44'24.0'' E
Meteorological Information	**:** FACT 091400Z 17017KT 9999 FEW025 21/15 Q1015 NOSIG=
Type of operation	**:** Private
Persons on board	**:** 1 + 0
Injuries	**:** None
Damage to aircraft	**:** Wings, fuselage and landing gear.

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 the 9th of April 2018, the pilot, who was the sole occupant on board the aircraft, intended to ferry the aircraft from Fisantekraal aerodrome (FAFK) to Stellenbosch aerodrome (FASH) for a Mandatory Periodic Inspection (MPI). The pilot stated that he taxied the aircraft to the threshold of Runway23 (RWY23) and began the take-off roll at approximately 1400Z.

1.2 The pilot concluded that after take-off and at about 300 feet above ground level (AGL), the control stick jammed. This rendered the flight controls inoperable and the pilot carried out further manoeuvres using the rudder and throttle. After being unable to find the cause of the jam, the pilot attempted to land back on the remaining runway. During the touch down, the

aircraft veered off to the left of RWY23 and collided with bushes on the left-hand side of the runway. The aircraft sustained substantial damage to the fuselage, wings and landing gear.

1.3 The pilot was not injured during the accident sequence and disembarked the aircraft unassisted.

1.4 The investigation revealed that the aircraft veered off the runway after take-off however it could not be proven what caused the flight control to jam as reported by the pilot. The post flight inspection revealed that the flight controls had full and free movement and there was no obstructions found even after the removal of the wing few days after the accident. All damages were as a result of the accident. The aircraft sustained substantial damage to the fuselage, wings and landing gear.

2. **FACTUAL INFORMATION**

2.1 On the 9th of April 2018, the pilot intended to ferry the aircraft from Fisantekraal (FAFK) to Stellenbosch (FASH) for a Mandatory Periodic Inspection (MPI). The pilot taxied the aircraft to the threshold of Runway 23 (RWY23) to carry out the engine run-up and pre-take off checks before take-off. Part of the pre-take off check is to check for full and free movement of the flight controls. During the take-off run on RWY 23, the flight controls locked at approximately 300 feet AGL.

2.2 According to the available meteorological records at the time of accident, there was a crosswind component of 14.72 knots(KT) from the left of RWY23 during the take off. The closest aviation weather reporting station is Cape Town International Airport (FACT). The pilot report had a wind velocity of 5KT from 230° magnetic. RWY23 is straddled by bushes to the right, buildings and bushes to the left of the runway. This shields the runway from strong winds originating from the sides. Shortly after take off, the aircraft experienced a rightward drift from the crosswind.

2.3 The pilot reported that his flight controlls became jammed at about 300 feet above ground level (AGL) and was unable to unjam the flight control. The pilot attempted executing an emergency landing on the remaining runway using the throttle and rudder to control the aircraft. The aircraft landed hard, veered of to the left of the runway and collided with the bushes before coming to a stop. The aircraft sustained damage to the fuselage, landing gear and both wings. The pilot was not injured and vacated the aircraft without any assistance.

2.4 Following the accident, the aircraft maintenance engineer (AME) went to the accident site on 10 April 2018 to recover the aircraft to the hangar. The post flight inspection revealed that the flight controls had full and free movement. There were no obstructions found after the removal of the wing. All damages were as a result of the accident sequence.

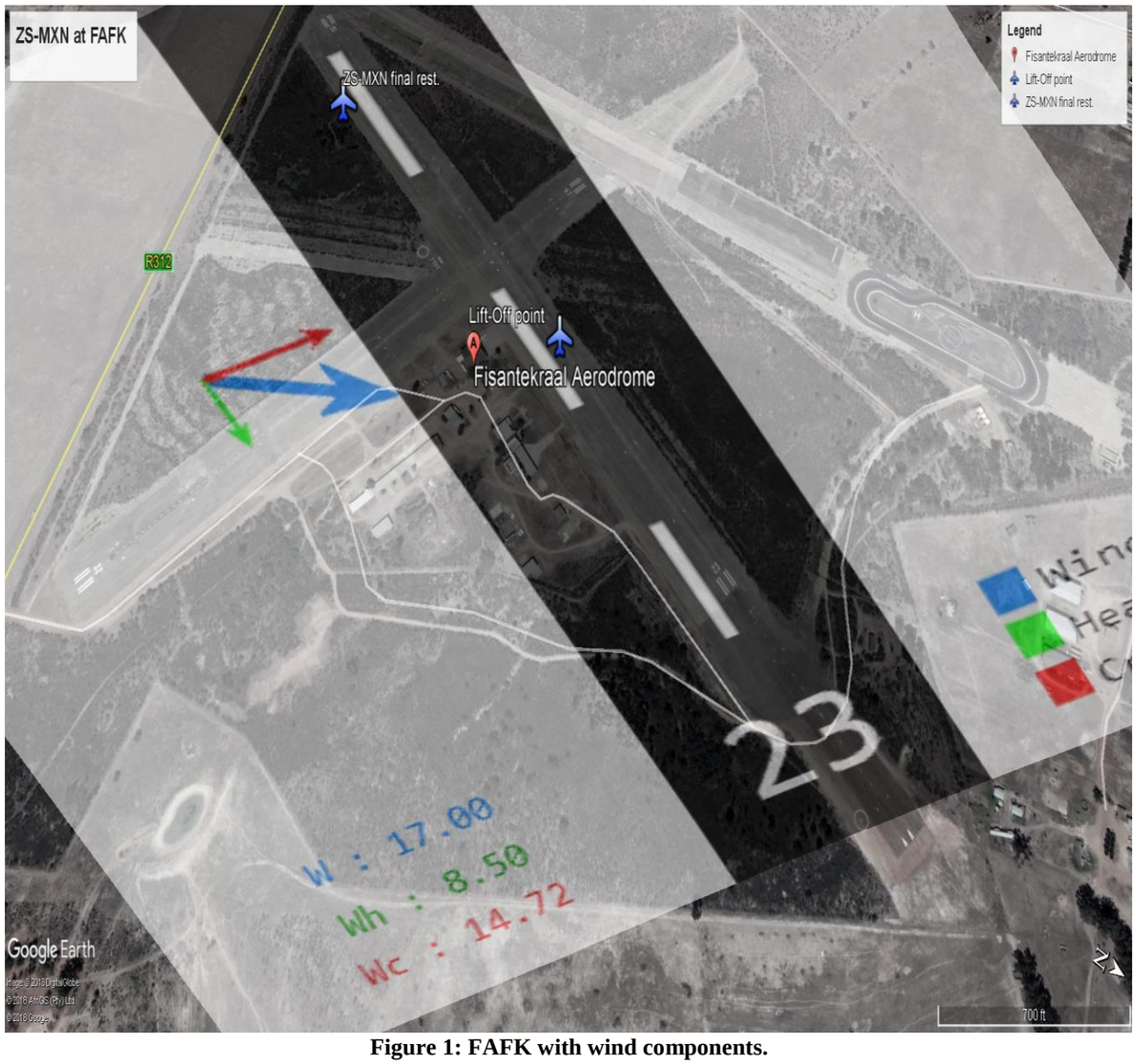

Figure 1: FAFK with wind components.

3. Findings

3.1 The pilot had a valid license and rating to conduct the flight. The pilot licence was issued on 24 July 2017 and due to expire on the 31st of August 2018.

3.2 The aircraft had no recorded defects prior to the flight that could have contributed to the cause of the accident. (Certificate of airworthiness and release to service details).

3.3. This was a ferry flight from FAFK to FASH which lies 14 Nautical Miles (NM) South East, for an MPI to be conducted.

3.4 The flight was conducted under VMC weather conditions with a crosswind component from the left of 14.72 KT. According to the pilot report he was expecting a head wind of 5 KT.

3.5 The aircraft veered off and collided with bushes to the left of RWY23. The aircraft sustained damages to the wings, fuselage and landing gear.

3.6 The pilot was not injured during the accident sequence and disembarked without any assistance.

3.7 The investigation revealed that the aircraft veered off the runway centreline after take-off, however it could not determine what caused the flight control to jam as reported by the pilot. The post flight inspection revealed that the flight controls had a full and free movement and there was no obstructions found even after the removal of the wing few days after the accident. All damages were as a result of the accident.

3.8 There was a crosswind component of 14.72 KT during take-off which may have caused wind shear.

3.9 All the damage sustained to the aircraft could be attributed to the accident sequence.

4 PROBABLE CAUSE/CONTRIBUTING FACTOR

4.1 Loss of control during take-off due to wind shear.

Figure 2: The aircraft as it came to rest.

5 SAFETY RECOMMENDATION

5.1 None.

6 ORGANISATION

6.1 The AME arrived on the scene to help with the recovery. The AME reported that the flight controls were free and full after the aircraft accident sequence.