

<b>AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY</b>
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				Reference:	CA18/2/3/9350	
<b>Aircraft Registration</b>	ZU-UBB	<b>Date of Accident</b>	18 August 2014		<b>Time of Accident</b>	0908Z
<b>Type of Aircraft</b>	Bat Hawk LSA		<b>Type of Operation</b>	Private		
<b>Pilot-in-command Licence Type</b>		Foreign Validation PPL	<b>Age</b>	53	<b>Licence Valid</b>	Yes
<b>Pilot-in-command Flying Experience</b>		Total Flying Hours	165		Hours on Type	9,5
<b>Last point of departure</b>		Private airstrip (Hazyview, Mpumalanga)				
<b>Next point of intended landing</b>		Bathawk city private airstrip (Nelspruit, Mpumalanga)				
<b>Location of the accident site with reference to easily defined geographical points (GPS readings if possible)</b>						
Bathawk city private airstrip in near Nelspruit left of runway 09 (GPS position: 25°24'59" South 030°5' 4'39" East), elevation 2477 feet						
<b>Meteorological Information</b>		Temperature: 24 °C, Dewpoint: 05 °C, Wind: 330° at 7 knots				
<b>Number of people on board</b>	1+1	<b>No. of people injured</b>	0	<b>No. of people killed</b>	0	
<b>Synopsis</b>						
<p>The pilot, being the owner of the aircraft, was accompanied by a passenger and departed from a private airstrip in Hazyview with the intention to land at Bathawk city private airstrip in Nelspruit. The flight time was approximately 30 minutes. The pilot positioned the aircraft for landing on runway 09 and configured the aircraft with full flap for the landing.</p> <p>The aircraft touched down at high speed on the nose wheel and the pilot subsequently lost control of the aircraft as a result and it veered to the left of the runway. The pilot was unable to regain directional control of the aircraft. The aircraft came to rest on the left hand side of the runway. The pilot and passenger evacuated without injury. The aircraft sustained damage to the nose gear, windscreen and fuselage.</p>						
<b>Probable Cause</b>						
<p>The aircraft touched down at high speed on the nose wheel first and the pilot subsequently lost control.</p> <p><b>Contributory factor.</b> Poor technique</p>						
IARC Date				Release Date		



<b>AIRCRAFT ACCIDENT REPORT</b>
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**Name of Owner** : Van der Ploeg GJ  
**Name of Operator** : Private  
**Manufacturer** : Pappas AJ  
**Model** : Bat Hawk LSA  
**Nationality** : South African  
**Registration Marks** : ZU-UBB  
**Place** : 25°24'59" South 030°54'39" East  
**Date** : 18 August 2014  
**Time** : 0908Z

*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.*

**Purpose of the Investigation:**

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (1997) 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 establish legal liability.*

**Disclaimer:**

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

## 1. FACTUAL INFORMATION

### 1.1 History of Flight

- 1.1.1 The pilot accompanied by a passenger departed on a private local flight with the intention to land at a nearby private strip 5 nm north of Nelspruit airport. Following 30 minutes of flight the pilot arrived over the destination aerodrome for landing.
- 1.1.2 The pilot configured the aircraft for landing with full flap and approached for landing on runway 09.
- 1.1.3 Pilot indicated that shortly after touchdown at high speed on the nose wheel the aircraft began to veer to the left of the runway. The pilot was unable to maintain directional control of the aircraft. The aircraft came to rest on the left hand side of

the active runway. The aircraft sustained damage to the nose gear, windscreen and fuselage. The occupants evacuated without any assistance or injury.

- 1.1.4 The accident occurred during daylight conditions at 0908Z at a geographical position that was determined to be 25° 24' 59" South 30° 54' 39" East at an elevation of 2477 feet above mean sea level (AMSL).

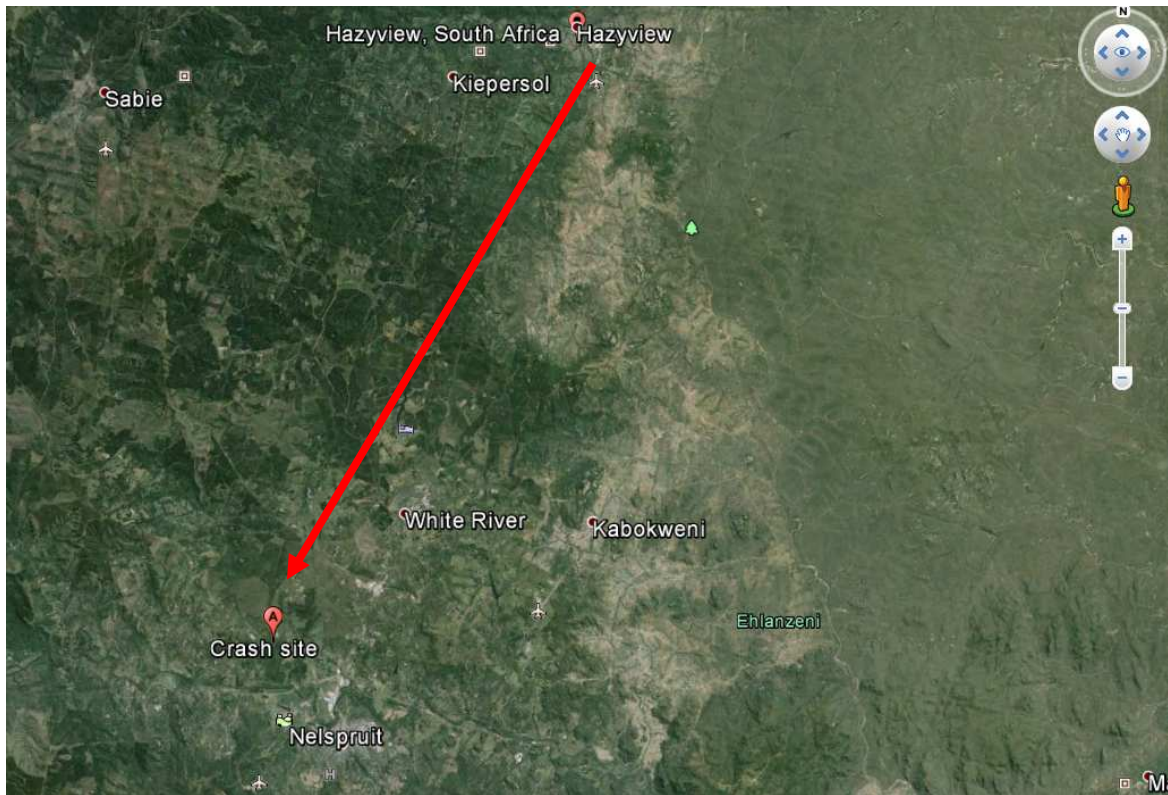


Figure 1: Flight path of aircraft

## 1.2 Injuries to Persons

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

### 1.3 Damage to Aircraft

1.3.1 Damage was caused to the nose gear, windscreen and fuselage.



**Figure 2:** Damage sustained by aircraft

### 1.4 Other Damage

1.4.1 None

## 1.5 Personnel Information

Nationality	Dutch	Gender	Male	Age	53
Licence Number	0272485848	Licence Type	Private Pilot Licence		
Licence valid	Yes	Type Endorsed	No		
Ratings	None				
Medical Expiry Date	6 May 2015				
Restrictions	None				
Previous Accidents	None				

### Flying Experience

Total Hours	165
Total Past 90 Days	35
Total on Type Past 90 Days	9,5
Total on Type	9,5

## 1.6 Aircraft Information

1.6.1 The Bat Hawk aircraft has a six-cylinder Jabiru engine with substantial engine mountings and cheekplates. The aircraft's maximum all-up weight is 1190 lbs.



Figure 3: Bat Hawk aircraft

**Airframe:**

Type	Bat Hawk LSA	
Serial Number	MA13-30	
Manufacturer	Pappas AJ	
Year of Manufacture	2013	
Total Airframe Hours (At time of Accident)	75,3	
Last Annual (Date & Hours)	14 January 2014	25 hours
Hours since Last Annual	50,3	
Authority to Fly (Issue Date)	15 January 2014	
C of R (Issue Date) (Present owner)	14 January 2014	
Operating Categories	Part 93	

**Engine:**

Type	Jabiru 3300
Serial Number	33A 2595
Hours since New	75,3
Hours since Overhaul	TBO not yet reached

**Propeller:**

Type	Warp drive
Serial Number	C19549
Hours since New	75,3
Hours since Overhaul	TBO not yet reached

**Weight and Balance**

Basic Empty Weight	593
Pilot and Passenger	434
Fuel on board	102
Take-off weight	1129 lbs

**Note:** The maximum take-off weight for this aircraft is 1190 lbs. The aircraft was within the take-off weight limitation.

1.6.2 The aircraft had 65 litres of fuel on board.

## 1.7 Meteorological Information

1.7.1 An official weather report was obtained from the South African Weather Service.

Wind direction	330°	Wind speed	7 kts	Visibility	-
Temperature	24 °C	Cloud cover	-	Cloud base	-
Dew point	05 °C				

**Note:** Automatic weather stations do not record cloud and visibility information.

1.7.2 No wind shear was forecast on the day of the accident by nearby stations in the area.

## 1.8 Aids to Navigation

1.8.1 The aircraft was equipped with the minimum visual flight rules (VFR) navigation equipment required by the regulator. There were no recorded defects on the navigation equipment prior to the flight.

## 1.9 Communications

1.9.1 The aircraft was equipped with standard communication equipment as required by the regulator. There were no recorded defects on communication equipment prior to the accident.

## 1.10 Aerodrome Information

Aerodrome Location	Bathawk city private airstrip in Nelspruit	
Aerodrome Co-ordinates	25°24'59" South 030°54'39" East	
Aerodrome Elevation	2477 ft	
Runway Designations	09	18
Runway Dimensions	850 m	850 m
Runway Used	09	
Runway Surface and Slope	Grass and uphill	
Approach Facilities	None	

Note: The airfield is a private airstrip. No information regarding runway width was available.

## **1.11 Flight Recorders**

1.11.1 The aircraft was not fitted with a cockpit voice recorder (CVR) or a flight data recorder (FDR), and neither was required by regulations to be fitted to this type of aircraft.

## **1.12 Wreckage and Impact Information**

1.12.1 The nose gear collapsed towards the fuselage and was indicative of an aircraft that had touched down on its nose wheel at high speed.

1.12.2 The aircraft veered to the left of the runway and came to rest in a south-easterly direction.

## **1.13 Medical and Pathological Information**

1.13.1 None.

## **1.14 Fire**

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

## **1.15 Survival Aspects**

1.15.1 The occupants were properly restrained by the aircraft's safety harness.

1.15.2 The accident was considered survivable due to the low kinetic energy associated with the impact.

## **1.16 Tests and Research**

1.16.1 None.

## **1.17 Organisational and Management Information**

1.17.1 This was a private flight.



## 1.18 Additional Information

1.18.1 The following information was obtained from the FAA Airplane Flying Handbook:

*In most cases when the wheels are within 2 or 3 feet off the ground, the airplane will still be settling too fast for a gentle touchdown; therefore, this descent must be retarded by further back-elevator pressure. It will result in the airplane touching the ground in the proper landing attitude and the main wheels touching down first so that little or no weight is on the nose wheel.*

*The round out and touch down should be made with the engine idling and the airplane at a minimum controllable airspeed, so the airplane will touch down on the main gear at approximately stalling speed.*

1.18.2 The following information was extracted from the Air Pilot's Manual Volume 1:

*The use of full flap extended will result in the following:*

- *A lower nose attitude*
- *Improved forward visibility*
- *Increased rate of descent*

## 1.19 Useful or Effective Investigation Techniques

1.19.1 None.

## 2. ANALYSIS

- 2.1 The pilot was licensed in accordance with regulations, but he was not type rated on the aircraft type. The pilot configured the aircraft with full flap for landing, which would have resulted in a steeper descent angle for landing, increased forward visibility and increased rate of descent. During the round-out phase to slow the rate of descent, the pilot would have applied some power while applying back-elevator pressure to reduce the airspeed.
- 2.2 With the uphill slope of the runway and reduced landing distance available, it is possible that in an attempt to land the pilot immediately applied drastic forward elevator pressure on the control stick, resulting in the nose wheel touching down first at a higher than normal touchdown speed.
- 2.3 The impact damage sustained to the nose gear and windscreen was indicative of a high vertical force applied during the phase. Due to the collapsed gear, maintaining directional control following touchdown would have been difficult. The aircraft subsequently veered to the left of runway 09.
- 2.4 No adverse weather phenomena were forecast for the day that could have affected the landing aircraft.

### **3. CONCLUSION**

#### **3.1 Findings**

- 3.1.1 The pilot was licensed and qualified for the flight in accordance with existing regulations.
- 3.1.2 No wind shear was forecast for the day.
- 3.1.3 The damage sustained to the nose gear was indicative of a high vertical force.
- 3.1.4 Due to incorrect round-out technique of the pilot, the aircraft touched down on its nose wheel first, resulting in subsequent loss of directional control.
- 3.1.5 The pilot had a foreign validation license.

#### **3.2 Probable Cause/s**

- 3.2.1 The aircraft touched down at high speed on the nose wheel first and the pilot subsequently lost control.

#### **3.3 Contributory factor.**

- 3.3.1 Poor technique

### **4. SAFETY RECOMMENDATIONS**

- 4.1 None.

### **5. APPENDICES**

- 5.1 None.