

SHORT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/3/2/1140	
Aircraft registration	ZU-MJM	Date of incident	7 November 2015		Time of incident	0907Z
Type of aircraft	Jabiru J430 (Micro-light aircraft)		Type of operation		Private (Part 94)	
Pilot-in-command licence type		Private	Age	54	Licence valid	Yes
Pilot-in-command flying experience		Total flying hours	895.3		Hours on type	472.8
Last point of departure		Richards Bay Aerodrome (FARB), KwaZulu-Natal Province				
Next point of intended landing		Richards Bay Aerodrome (FARB), KwaZulu-Natal Province				
Location of the incident site with reference to easily defined geographical points (GPS readings if possible)						
Beach near Richards Bay Harbour (GPS position; 28°49'44.30" South 032°04'04.20" East), elevation 2 feet						
Meteorological information		Surface wind: 240°/10 knots, Temperature: 27°C, Visibility: +10km, CAVOK				
Number of people on board		1 + 1	No. of people injured	0	No. of people killed	0
Synopsis						
<p>The pilot, accompanied by his wife took-off from FARB on a private flight. They flew along the coast to Mntinzini where they turned around and flew back to FARB. The pilot state that during the turn he felt a slight vibration from the engine and through the airframe but he opted to continue with the flight. At 0857Z the pilot called air traffic control (ATC) at FARB <i>"inbound approaching the aerodrome from the south, experiencing a rough running engine"</i>. ATC requested the pilot if he was declaring an emergency? To which he replied, <i>"no the aircraft has full power and was able to maintain altitude"</i>. The pilot then requested a straight in approach for runway 05, which was acknowledged by ATC and he was required to report final approach runway 05. At 0900Z the pilot reported a very rough running engine and indicated that he will be climbing as high as possible seawards of the coast. Abeam the Richards Bay Coal Terminal the engine stopped. At 0901Z the pilot reported to ATC that the engine failed 9 nautical miles (nm) south of the Richards Bay Harbour and he intended to land on the beach. ATC acknowledge the above and activated the crash alarm. ATC then requested the pilot to report further intentions and estimated position where he will be landing for search and rescue purposes. The pilot executed an uneventful forced landing on the beach above the water line. After he had disembarked from the aircraft he noticed the propeller was missing, the propeller was not found. Nobody was injured in the incident.</p>						
Probable cause						
<p>The pilot executed an uneventful forced landing on an open section of beach following an engine stoppage in flight.</p> <p>Contributory Factor: Inflight separation of the propeller, the cause of such could not be established.</p>						
SRP date		12 September 2017	Release date		20 September 2017	

AIRCRAFT SERIOUS INCIDENT REPORT

Name of Owner : Warnich Family Trust
Name of Operator : Private (Part 91)
Manufacturer : Shadow Lite CC
Model : Jabiru J430
Nationality : South African
Registration markings : ZU-MJM
Place : On the beach near Richards Bay Harbour
Date : 7 November 2015
Time : 0907Z

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 (2011) the purpose of investigation of an aircraft accident or incident is to determine, in terms of the provisions of this Part, the facts of an accident or incident in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents, and **not to establish blame or liability.***

Disclaimer:

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1. FACTUAL INFORMATION

1.1 History of flight

1.1.1 The pilot, accompanied by his wife took-off from Richards Bay Aerodrome (FARB) at 0728Z on a private flight. They flew along the coast to Mntinzini where they turned around and flew back to FARB. The pilot state that during the turn he felt a slight vibration from the engine and through the airframe but he opted to continue with the flight.

- 1.1.2 At 0857Z the pilot called air traffic control (ATC) at FARB *“inbound approaching the aerodrome from the south, experiencing a rough running engine”*. ATC requested the pilot if he was declaring an emergency? To which he replied, *“No the aircraft has full power and was able to maintain altitude”*. The pilot then requested a straight in approach for runway 05, at that stage the surface wind was 240° at 10 knots and runway 23 was in use. ATC acknowledge the pilot request and he was required to report final approach runway 05. At 0900Z the pilot reported a very rough running engine to ATC and indicated that he will be climbing as high as possible seawards of the coast. Abeam the Richards Bay Coal Terminal the engine stopped. At 0901Z the pilot reported to ATC that the engine failed 9 nautical miles (nm) south of the Richards Bay Harbour and he intended to land on the beach. ATC acknowledge the above and activated the crash alarm. ATC then requested the pilot to report further intentions and estimated position where he will be landing for search and rescue purposes. The pilot executed an uneventful forced landing on the beach above the water line. After he had disembarked from the aircraft he noticed that the propeller was missing. He informed ATC accordingly. Nobody was injured in the incident. The propeller was not recovered by the time this report was concluded.
- 1.1.3 On 6 June 2014 a similar incident occurred in South Africa, which also involved a Jabiru SP type of aircraft with registration markings ZU-FTC (Serious Incident number; CA18/3/2/1058). In this incident the pilot landed on the Keurboomstrand, which was 3nm east of Plettenberg Bay. The propeller also became detached from the crankshaft during flight. The propeller of the aircraft was recovered from the sea.
- 1.1.4 The serious incident occurred during daylight conditions at a geographical position that was determined to be 28°49'44.30" South 032°04'04.20" East at an elevation of 2 feet above mean sea level (AMSL).



Figure 1: The aircraft as it came to a halt on the beach without a propeller



Figure 2: The crankshaft flange with the sheared propeller bolts visible



Figure 3: Photograph of the aircraft with the propeller installed – pre incident

1.2 Investigation revealed the following:

- 1.2.1 The pilot was the holder of a valid private pilot licence and the aircraft type was endorsed in it.
- 1.2.2 The pilot was also the owner of the aircraft since October 2009 and had accumulated a total 472.8 fly hours on type when the incident occurred.
- 1.2.3 The pilot was in radio communication with ATC at FARB and he had declared an emergency with them as the intensity of the rough running engine increased, shortly before the engine stopped in flight.
- 1.2.4 The pilot executed an uneventful forced landing on the beach south of the Richards Bay Harbour mouth.
- 1.2.5 The pilot became aware that the propeller was missing after he had disembarked from the aircraft following the landing on the beach.
- 1.2.6 The micro-light aircraft was in possession of a valid Authority to Fly that expired on 3 August 2016.

- 1.2.7 The last annual inspection that was certified on the micro-light aircraft prior to the incident was on 4 August 2015 at 561.8 airframe hours.
- 1.2.8 The aircraft had accumulated a total of 583.7 airframe hours at the time of the incident.
- 1.2.9 The engine was removed from the airframe and was returned to the manufacturer after the incident.
- 1.2.10 There was no evidence found that the engine stopped due to a mechanical malfunction during flight.
- 1.2.11 The sheared propeller bolts had to be removed mechanically from the crankshaft flange.
- 1.2.12 A Sensenich 2A0J5 two bladed, ground adjustable carbon fiber propeller was installed on the aircraft (see Figure 3).
- 1.2.13 The propeller was not recovered by the time this report was concluded.
- 1.2.14 The prevailing weather conditions at the time had no influence on the incident.

2. CONCLUSION

2.1 Probable cause

- 2.1.1 The pilot executed an uneventful forced landing on an open section of beach following an engine stoppage in-flight.

2.2 Contributory factor

- 2.2.1 Inflight separation of the propeller and the cause could not be established.

3. SAFETY RECOMMENDATIONS

- 3.1 It is recommended to the Director of Civil Aviation that all Jabiru aircraft fitted with the same type of propeller be made aware of this incident and that a maintenance advisory notice (MAN) be issued to prevent a re-occurrence.
- 3.2 Safety Message: A potentially serious accident was avoided by the pilot's adherence to emergency procedures and maintaining control of the aircraft after an in-flight engine stoppage.

4. APPENDICES

- 4.1 Annexure A (Propeller Assembly)

ANNEXURE A

INSTALLATION ON JABIRU DIRECT DRIVE 2200 AND 3300

WITH SENSENICH NON-THREADED FLANGE BUSHINGS

ITEM	DESCRIPTION	QTY
1	B-1806-(XX) Spacer (If Required)	1
2	A-1259 Spacer Bushings (If Required)	6
3	2A0J5 Series Hub Mount Half	1
4	Composite Propeller Blades	2
5	2A0J5 Series Hub Cover Half	1

ITEM	DESCRIPTION	QTY
6	NL8 sp Nord-Lock Washers	18
7	AN5-15A Clamping Bolts	6
8	DIN 931 M8 cl8.8 or AN5 Mounting Bolts	6
9	A-1261 Flange Bushings	6
10	DIN 985 M8 cl8.8 or AN365-524 Nylock Nuts	6

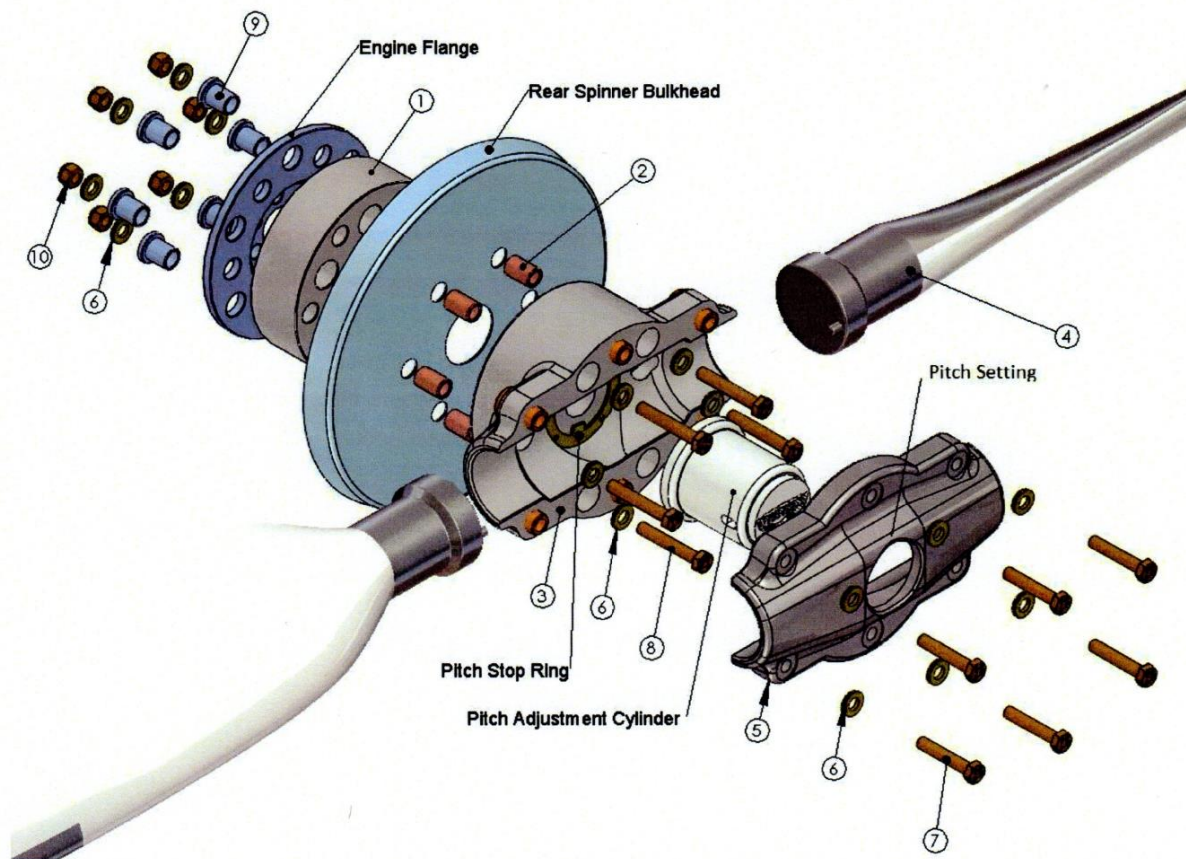


FIGURE 1. JABIRU PROPELLER ASSEMBLY