AIRCRAFT ACCIDENT SHORT REPORT

CA18/2/3/9689 ZU-KAH, Accident

Date and time	:	01 March 2018 and 0615Z
Occurrence category	:	Accident
Occurrence type	:	Commercial (Part96)
Aircraft registration	:	ZU-KAH
Aircraft manufacturer and model	:	ICP Italy & Savannah Africa, Savannah S
Last Point of departure	:	Hoedspruit Airfield (FAHT), Limpopo Province
Next point of intended landing	:	SA Wildlife College, Limpopo Province
Location of accident site with reference to easily defined geographical points (GPS readings if possible)	:	Recently ploughed field, Mokwalo farm near Hoedspruit, Limpopo Province (GPS S24.41188 E031.11801)
Meteorological Information	:	Wind: 120^{0}02kts, Temprature 08^{0}C, Deu point: 03^{0}C, QNH 1016
Type of operation	:	Private Ferry flight
Persons on board	:	1 + 0
Injuries	:	None
Damage to aircraft	:	Broken off nosewheel, damage to central fuselage, propeller, windscreen, right wing and tail fin.

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 establish blame or liability.***

Disclaimer:

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

1 SYNOPSIS

1.1On 01 March 2018, the pilot took off from FAHT at 0615Z on a ferry flight to the Wildlife College. The aircraft engine started running rough and subsequently stopped. The pilot executed a forced landing on a ploughed field after he could not restart the engine. During the landing, the nosewheel collapsed and the aircraft nosed over coming to rest upside down. The pilot was not injured during the accident sequence. The aircraft sustained damage to the nosewheel, propeller and fuselage.

2 FACTUAL INFORMATION

2.1The pilot took off from FAHT at 0615Z, on a solo ferry flight to the Wildlife college. The aircraft had just undergone a 800 Mandatary Periodic Inspection(MPI) at FAHT. The aircraft engine started running rough fifteen minutes into the flight. The pilot could not restore the engine or find the fault and the aircraft engine stopped. The pilot elected to execute a forced landing. The pilot stated that he chose a recently ploughed field to land the aircraft as it was the only landing field available to him. During the landing roll the nosewheel collapsed and the aircraft tipped over after landing on soft ground. The pilot was not injured during the accident sequence and vacated the aircraft unassisted. The aircraft sustained damage to the nosewheel, propeller, fuselage and vertical stabilizer.

2.2The engine teardown inspection revealed that the aircraft engine was fitted with a non standard Rotax mechanical fuel pump. The left hand side caburator had a disintegrated retaining clip and fixation screw. Part of the retaining clip was stuck in the needle jet, which restricted normal fuel flow. This resulted in the misbalance of fuel supply which would lead to rough running and subsequently engine stoppage (Figure 1).

2.3It should be noted that the Rotax Maintenance Manual recommends caburator inspection every 200 hours.

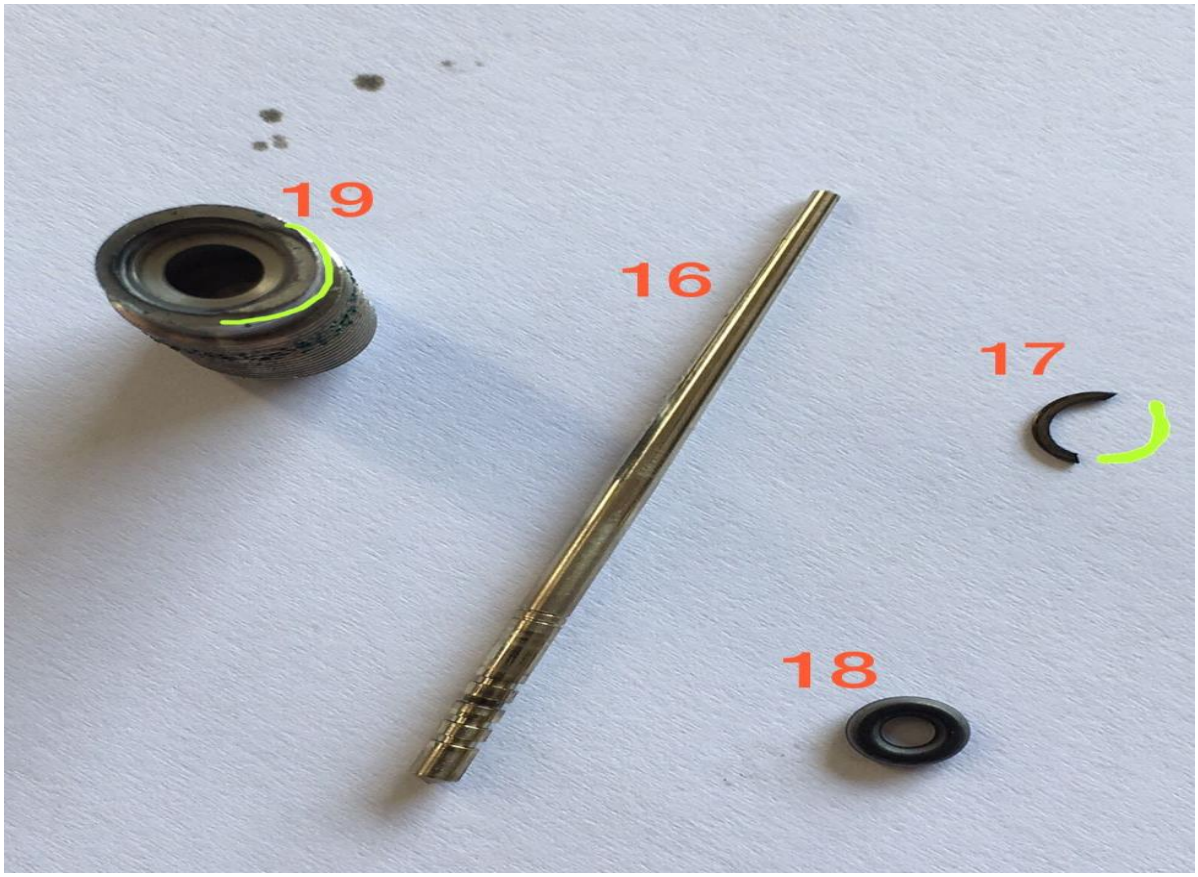

Figure 1: The disintegrated caburator components (17 retaining clip and 19fixation screw)

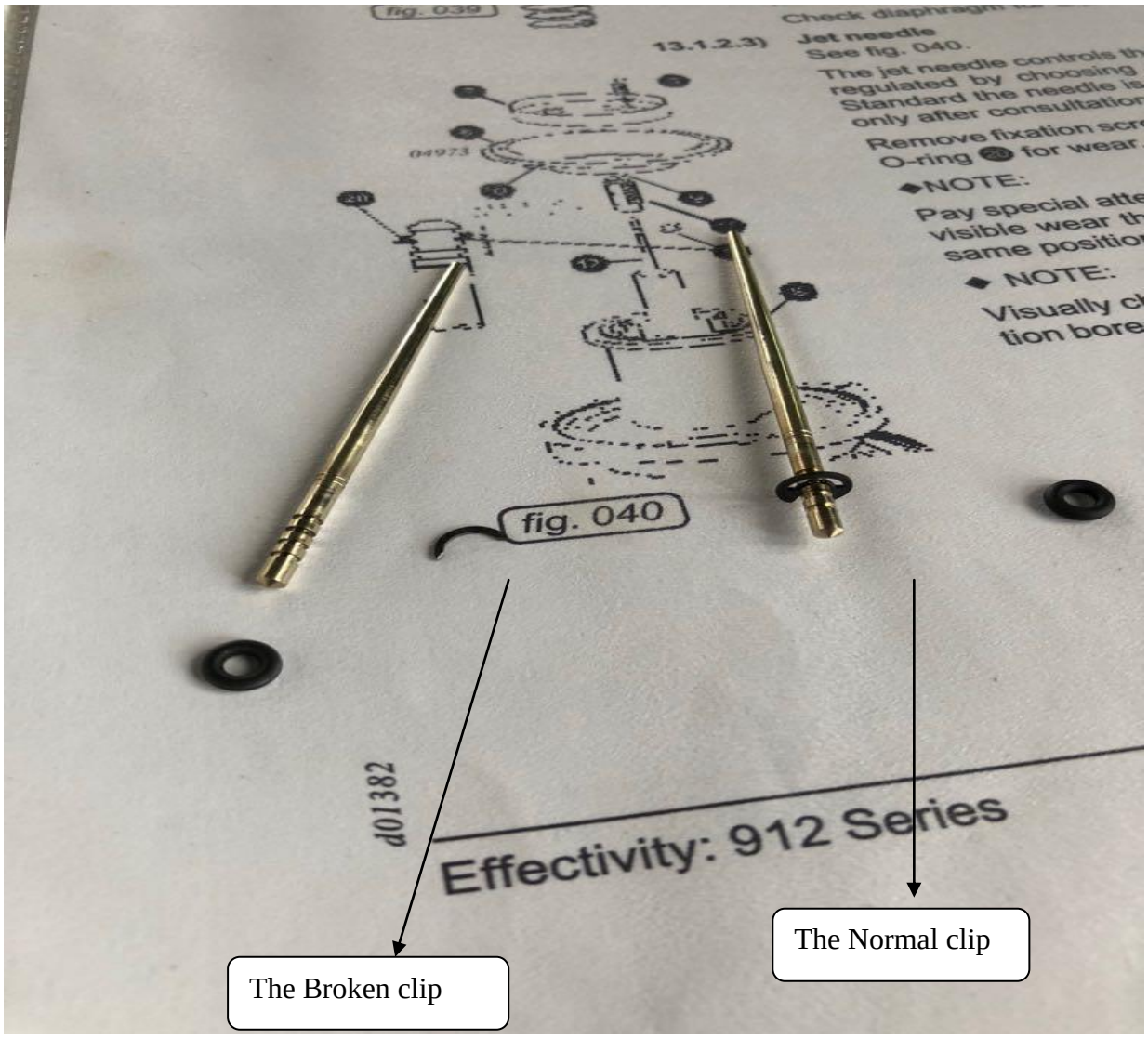

Figure 2: The two retaining clips side by side.

3 PROBABLE CAUSE/CONTRIBUTING FACTOR

3.1 Unssucessfull forced landing following enginge failure due fuel starvation following a failed retaining clip.The breaking off of the pin contributed to the rough running and subsequent stopping of the aircraft engine.

Figure 3: The aircraft as it came to rest.

4 FINDINGS

4.1 The pilot in command was a holder of a valid pilots license and rating for the flight.

4.2 The aircraft had a valid authority to fly.

4.3 This was a ferry flight from FAHT to the Wildlife college after a 800 hour MPI.

4.4 The aircraft was serviced and maintained according to the recommended standards by the manufacturer according to available records.

4.5 The Rotax Maintenance Manual recommends caburator inspection every 200 hours.

5 SAFETY RECOMMENDATION

Safety message

5.1 It is recommended that the aircraft owners and operators of this type of aircraft installed with Rotax engine to ensure compliance of caburator inspection at every 200 hours.

6 TYPE OF SAFETY ACTION

6.1 The pilot elected to execute a forced landing following an engine failure after ten minutes into the flight.