

**LIMITED SERIOUS INCIDENT INVESTIGATION REPORT**

<b>Reference Number</b>	CA18/3/2/1377						
<b>Classification</b>	Serious Incident	<b>Date</b>	24 October 2021	<b>Time</b>	0800Z		
<b>Type of Operation</b>	Training (Part 141)						
<b>Location</b>							
<b>Place of Departure</b>	Wonderboom Aerodrome (FAWB), Gauteng Province			<b>Place of Intended Landing</b>	Wonderboom Aerodrome (FAWB), Gauteng Province		
<b>Place of Accident</b>	Wonderboom Aerodrome, Runway 11						
<b>GPS Co-ordinates</b>	<b>Latitude</b>	S25°39'12.6"	<b>Longitude</b>	E 28°13'25.19"	<b>Elevation</b>	5280ft	
<b>Aircraft Information</b>							
<b>Registration</b>	ZS-KNG						
<b>Model/Make</b>	Cessna 402C II, Cessna Aircraft Company						
<b>Damage to Aircraft</b>	Substantial			<b>Total Aircraft Hours</b>	1468.7		
<b>Pilot-in-command</b>							
<b>Licence Type</b>	Airline Transport Pilot Licence (ATPL)		<b>Gender</b>	Male		<b>Age</b>	63
<b>Licence Valid</b>	Yes						
<b>Total Hours on Type</b>	277.7			<b>Total Flying Hours</b>	23678.4		
<b>People On-board</b>	1 + 1	<b>Injuries</b>	0	<b>Fatalities</b>	0	<b>Other (on ground)</b>	0
<b>What Happened</b>							

On 24 October 2021 at approximately 0655Z, a Cessna 402C II twin-engine aircraft with registration ZS-KNG took off from Wonderboom Aerodrome (FAWB) with an instructor and a student pilot on-board. The intention was to conduct a navigation flight to the Coves Private Airstrip, then to Brits Aerodrome (FABS) before a full stop landing at FAWB. The purpose of the flight was for a Commercial Pilot Licence student pilot to complete an aircraft type familiarisation training. The flight was conducted during day light conditions and under the provisions of Part 141 of the Civil Aviation Regulations 2011 as amended.

According to the student pilot, they completed two touch-and-go circuits (one with flaps and another without flaps) at The Coves Private Airstrip, and another two touch-and-go circuits at FABS, which were all uneventful. The instructor and the student pilot then proceeded to FAWB for a full stop landing. Whilst on long final approach for Runway (RWY) 11, the instructor and the student pilot completed all final approach checks, including checking the three green lights for down and locked undercarriage. At 85 knots (kt), full flaps were lowered whilst on approach for RWY 11, and the aircraft had a smooth touch down. During the landing roll, the aircraft started to pull to the left-side. The instructor took over the control of the aircraft and applied more right hand-side brakes. The aircraft heading changed by approximately 140° because of free moving left main

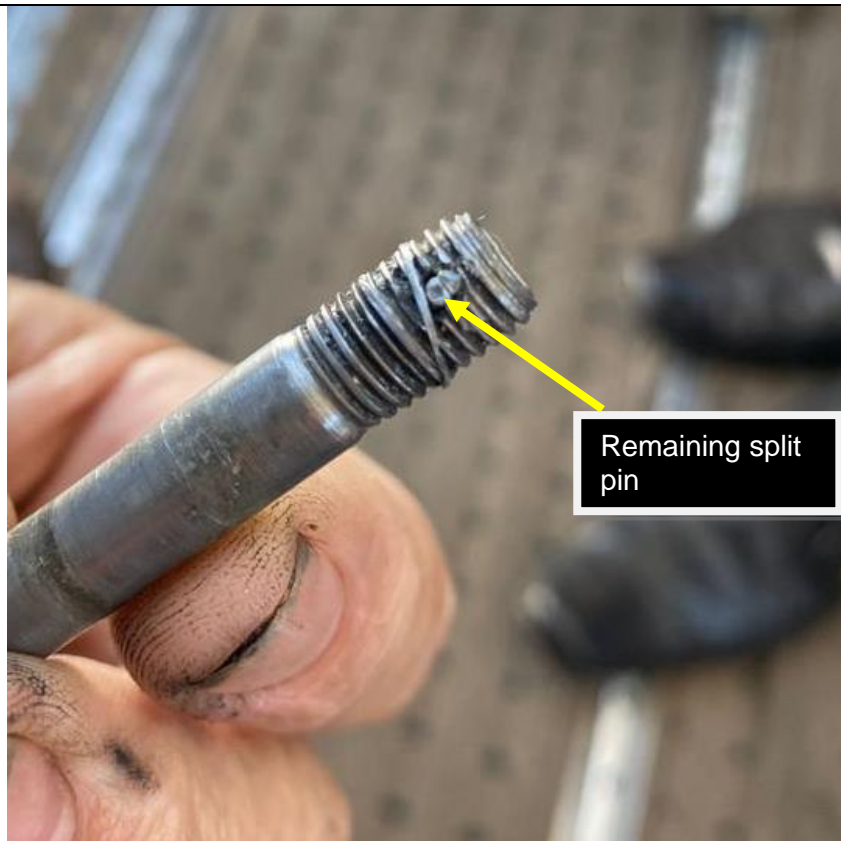
gear due to a separated torque link. The aircraft skidded and came to a stop on the left edge of RWY 11.

What the investigation revealed:

- The 100-hour mandatory periodic inspection (MPI) was completed on 21 October 2021 at 1463.4 Hobbs hours and 10231 airframe hours. The aircraft had flown 5.3 hours since the said MPI.
- According to the aircraft maintenance engineer (AME), the torque link, bolt and castellated nut are on-condition items which are inspected at every inspection, including the MPI.
- Examination of the bolts suggested that during the touch-and-go circuits, the left main gear castellated nut was stripped off and the split pin was sheared. Only the bolt was found at FAWB (see Figure 2).



**Figure 1:** The left main gear torque link had separated. (Source: Pilot)



**Figure 2:** The split pin is contained in the bolt hole. The nut was never found. (Source: Pilot)

**Probable Causes:**

The pilot lost control of the aircraft and veered off the runway during the landing roll due to the separation of the bolt and the castellated nut which connect to the torque link. Landing gear failure and improper maintenance/servicing.

**Contributing factor:**

Over torque during maintenance.

**Safety Action/s**

None.

**Safety Message**

It is recommended that the AMO adheres to all manufacturer’s technical specifications, especially torque measurements, to avoid similar incidents.

**Purpose of the Investigation**

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, 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 apportion blame or liability.***

## **About this Report**

*Decisions regarding whether to investigate, and the scope of an investigation are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, no investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this brief report. The report has been compiled using information supplied in the initial notification, as well as follow-up information to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar accident.*

*This report provides an opportunity to share safety message/s in the absence of an investigation.*

*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.*

## **Disclaimer**

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

**This report is issued by:**

**Accident and Incident Investigations Division  
South African Civil Aviation Authority  
Republic of South Africa**