



<b>LIMITED SERIOUS INCIDENT INVESTIGATION REPORT</b>
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<b>Reference Number</b>		CA18/3/2/1397					
<b>Classification</b>	Serious Incident	<b>Date</b>	15 April 2022		<b>Time</b>	0545Z	
<b>Type of Operation</b>		Charter (Part 135)					
<b>Location</b>							
Place of Departure		Lanseria International Airport (FALA), Gauteng Province		Place of Intended Landing		Alldays Aerodrome (FAAL), Limpopo Province	
Place of Serious Incident		Runway 07 (RWY07) at Lanseria International Airport (FALA)					
GPS Co-ordinates	Latitude	S 25°56'23"	Longitude	E 027°55'28.8"	Elevation	4517 ft	
<b>Aircraft Information</b>							
Registration		ZS-WRI					
Model/Make		Cessna C402 C (Serial Number: 402C0610)					
Damage to Aircraft		None		Total Aircraft Hours		1112.7	
<b>Pilot-in-command</b>							
Licence Valid		Yes	Gender	Male	Age	27	
Licence Type		Commercial Pilot Licence (Aeroplane)					
Total Hours on Type		370		Total Flying Hours		936	
People On-board	1 + 2	Injuries	0	Fatalities	0	Other (On Ground)	0
<b>What Happened</b>							
<p>On 15 April 2022 at 0545Z, a pilot and two passengers on-board a Cessna 402 aircraft with registration ZS-WRI took off on a charter flight from Runway 07 (RWY 07) at Lanseria International Airport to Alldays Aerodrome (FAAL) in Limpopo province. The flight was conducted under visual flight rules (VFR) by day and under the provisions of Part 135 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot reported that he conducted a pre-flight inspection, and all the checks were normal. The aircraft had 1200 pounds (lbs) of fuel on-board and the flight was planned to take approximately 35 minutes. After take-off from RWY 07, the pilot retracted the landing gear lever, but the red 'gear unlocked indication' light remained illuminated on the instrument panel, and the aircraft suddenly yawed to the left. The pilot then joined the left-side circuit and leaned the left engine mixture, which restored the left engine power. He then yawed the aircraft to the left- and right-side twice as per the Pilot's Operating Handbook (POH) procedure (see Figure 3) to get the three green gear down indication lights. He then contacted FALA air traffic control (ATC) tower to visually confirm if the landing gear was down (extended) whilst he conducted a fly-past at circuit altitude. The FALA ATC tower reported that the landing gear seemed to be down. The pilot landed the aircraft on RWY 07 at 0558Z and taxied to the apron.</p>							

There were no reported injuries or damage to the aircraft during the incident sequence.

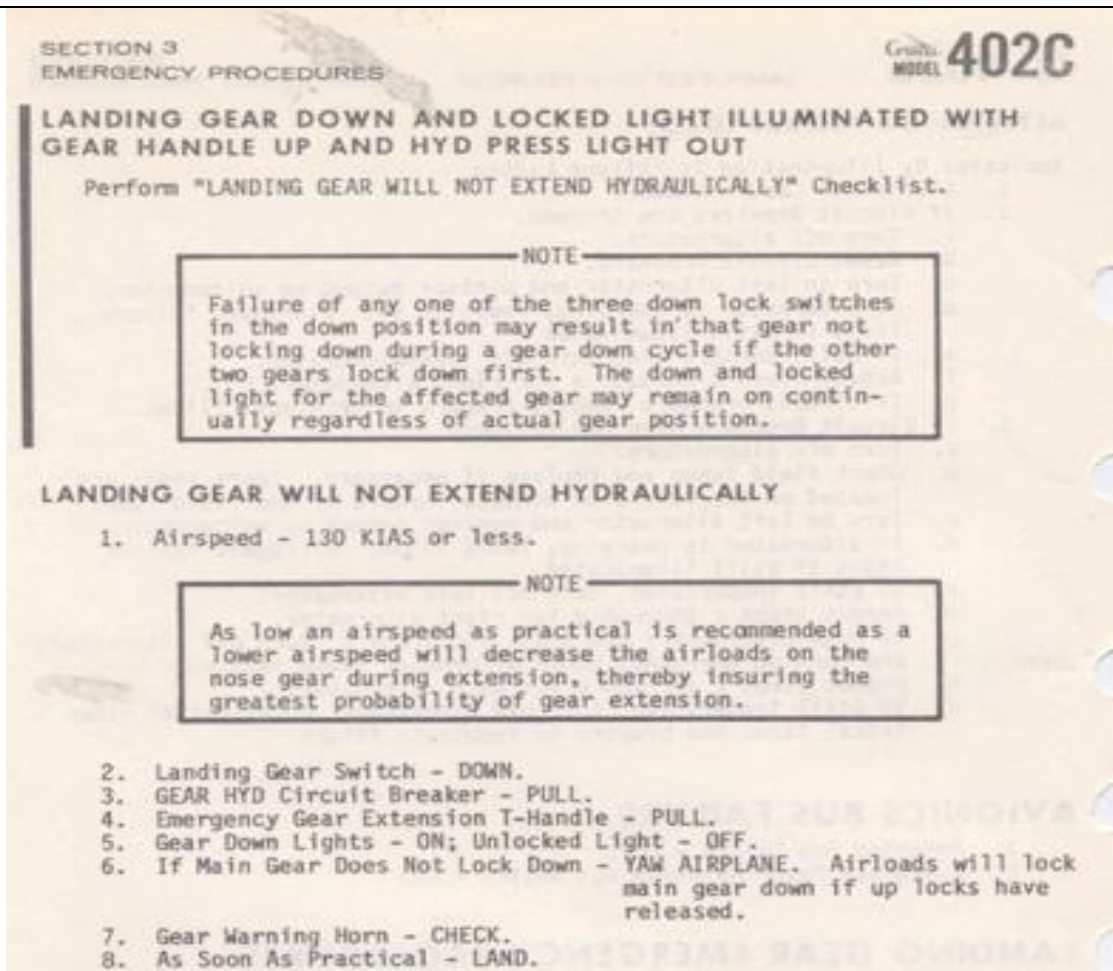
Post-flight inspection of the main landing gear wheel well revealed that a rubber seal on the nut that connects to the left gear hydraulic loaner pump actuator was well-worn. This caused the hydraulic fluid to leak (squirt) when under pressure.



**Figure 1:** The aircraft at the aircraft maintenance organisation (AMO) facility after the incident. (Source: Pilot)



**Figure 2:** Position of the hydraulic fluid seal in the left main gear wheel well. (Source: Operator)



**Figure 3:** Landing gear emergency procedure of a C402C. (Source: POH)

### What was found

- The pilot was initially issued a Commercial Pilot Licence (CPL) Aeroplane on 10 April 2019 with an expiry date of 31 August 2022. The Cessna 402 aircraft type was endorsed on his licence. A Class 1 medical certificate was issued to the pilot on 20 August 2021 with an expiry date of 31 August 2022 with no restrictions.
- The aircraft had a Certificate of Airworthiness (CoA) which was issued on 25 May 2018 with an expiry date of 31 May 2022. The aircraft's Certificate of Registration was issued on 10 October 2014.
- The 50-hour mandatory periodic inspection (MPI) was carried out on the aircraft on 18 March 2022 and certified at 1498.0 airframe hours prior to the incident. The aircraft was issued a Certificate of Release to Service (CRS) on 18 March 2022 with an expiry date of 17 August 2023 or at 1598.0 hours of flight time, whichever occurs first unless the aircraft is involved in an accident or becomes unserviceable.
- The operator had an aircraft operating certificate (AOC) which was issued on 27 September 2021 with an expiry date of 30 September 2022.
- A hydraulic hose seal, which is an on-condition item, on the left-side main gear wheel well area had failed. This caused the hydraulic fluid to leak when under pressure during operation, hence, the gear indication failure. The left air filter was removed, cleaned and

refitted, whilst the failed hydraulic hose seal was replaced with a new one. The engine bay was washed, and the hydraulic levels were topped up before a test flight was conducted. The aircraft operated satisfactorily during the test flight.

#### **Probable cause**

A failed hydraulic fluid hose seal on the loaner pump led to an 'unlocked gear indication' light illuminating at take-off.

#### **Safety Actions**

None.

#### **Safety Recommendation**

None.

#### **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**

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**This report is issued by:**

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