

**LIMITED INCIDENT INVESTIGATION**

<b>Reference Number</b>		CA18/3/2/1347					
<b>Classification</b>	Serious Incident	<b>Date</b>	10 June 2021		<b>Time</b>	1039Z	
<b>Type of Operation</b>	Part 91 (General Aviation) (Acceptance Flight)						
<b>Location</b>							
<b>Place of Departure</b>	Wonderboom National Airport (FAWB)		<b>Place of Intended Landing</b>	Wonderboom National Airport (FAWB)			
<b>Place of Incident</b>	Runway 11, Wonderboom National Airport (FAWB), Gauteng Province						
<b>GPS Co-ordinates</b>	Latitude	25°39'13.88" S	Longitude	28°13'53.63" E	Elevation	4038 ft	
<b>Aircraft Information</b>							
Registration	ZS-NDN						
Model/Make	Piper PA-31-350 Chieftain						
Damage to Aircraft	None		Total Aircraft Hours	15472.6			
<b>Pilot-in-command</b>							
Licence Type	Air Transport Pilot Licence (ATPL)		Gender	Male	Age	30	
Licence Valid	Yes						
Total Hours on Type	661.7		Total Flying Hours	2534.6			
<b>People On-board</b>	1+0	Injuries	0	Fatalities	0	Other	0
<b>What Happened</b>							
<p>On 10 June 2021 at about 1039Z, the pilot of a Piper PA-31-350 Chieftain twin-engine aircraft with registration mark ZS-NDN was preparing for departure for a final maintenance acceptance flight test from Wonderboom National Airport (FAWB) Runway 11, with the intention to land at the same airport.</p> <p>Once lined up on the runway and cleared for take-off, the pilot set the throttle levers to take-off power, released the brakes, and started the take-off run.</p> <p>The pilot stated that at rotation speed (Vr), the control column felt heavy, and he reacted by exerting constant physical pressure to pull it back. The pilot deduced that the aircraft would not be able to rotate and lift off in time, thus, he closed the throttle levers to idle position and started to apply brakes to bring the aircraft to a stop. Upon realising that there would not be sufficient runway remaining to stop, the pilot applied excessive brakes and retarded the mixture control levers for both engines to cut-off positions before he shut down the engines to stop the aircraft.</p>							



**Figure 1:** An aerial view of the incident site. (Source: Google Earth)

The aircraft exited the runway and came to a stop on the grass area, about 50 metres from the threshold of Runway 29. The dry grass where the aircraft had stopped was ignited by hot main landing gear brake assemblies. The pilot instantly notified the air traffic control (ATC) about the incident and requested assistance. On arrival, the FAWB fire and rescue services managed to extinguish the fire before damage was caused to the aircraft. There were no injuries reported and there was no damage to the aircraft.



**Figure 2:** The aircraft as it came to rest. (Source: Pilot)

Following the reporting of the occurrence, the pilot stated that the aircraft's elevator trim tap (located on the elevator right-side) was not correctly trimmed for take-off on the trim wheel in the cockpit, which led to the control column being heavy to pull back at rotation. The elevator trim was found in a reverse sense (position) for take-off, meaning that it was trimmed in a nose-down attitude.

The investigation revealed that the aircraft was capable of normal operation at the time of incident. There was no evidence found to indicate that the performance of the pilot was affected by any physical condition that may have impeded his ability to carry out the flight.

<p>Probable cause:</p> <p>The aircraft failed to rotate due to the elevator trim being set to a nose-down attitude; the cause was attributed to the pilot's failure to conduct a proper pre-flight inspection prior to initiating his flight.</p>
<p><b>Safety Action/s</b></p>
<p>As a result of this occurrence, the pilot informed the AIID that to ensure that a similar occurrence does not happen to him again, he would diligently carry out the before take-off checks going forward.</p>
<p><b>Safety Message and/or Safety Recommendation/s</b></p>
<p>Safety message: Pilots are advised to always carry out a proper pre-flight inspection and follow the pre-flight checklist at all times when conducting a pre-flight inspection.</p>
<p><b>Purpose of the Investigation</b></p>
<p><i>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 <b>not to apportion blame or liability.</b></i></p>
<p><b>About this Report</b></p>
<p><i>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.</i></p> <p><i>This report provides an opportunity to share safety message/s in the absence of an investigation.</i></p> <p><i>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.</i></p>
<p><b>Disclaimer</b></p>
<p><i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i></p>

**This report is issued by:**

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