



EXECUTIVE SUMMARY - AIRCRAFT ACCIDENT REPORT

				Reference	CA18/2/3/8308	
Aircraft Registration	ZS-JCJ	Date of Accident	1 June 2007		Time of Accident	1430Z
Type of Aircraft	Piper PA30		Type of Operation	Training		
Pilot-in-command Licence Type		Commercial Pilot	Age	32	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	1350		Hours on Type	23
Last point of departure		Wonderboom Aerodrome (FAWB)				
Next point of intended landing		Wonderboom Aerodrome (FAWB)				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
Runway 06 at Wonderboom Aerodrome						
Meteorological Information		Wind 060° at 10 – 12 kts, temperature 18°C, visibility CAVOK				
Number of people on board	1 + 1	No. of people injured	0	No. of people killed	0	
Synopsis						
<p>The flight instructor and a student were busy with a conversion training flight onto the Piper PA30 aircraft type. The student stated that several touch-and-go landings carried out during the first flight of the day where uneventful. After they had lunch, they departed on the second flight of the day. On the first touch-and-go landing, the student flared the aircraft too high above the runway and a hard landing followed. The flight instructor then took over control of the aircraft in order to demonstrate to the student what was required from him. The flight instructor attempted to retract the undercarriage, but the gear up light failed to illuminate. The flight instructor requested a flyby in front of the tower, and the air traffic controller confirmed that the undercarriage appeared up. However, as soon as the flight instructor attempted to select gear down, the undercarriage failed to lock down. The flight instructor then utilised the emergency system to lower the undercarriage, whereafter he performed another flyby. The air traffic controller confirmed that the gear appeared to be down. The aircraft was landed without any further incident and was taxied to the aircraft maintenance organisation's hanger. Following an inspection of the undercarriage, the right-hand trunion assembly was found to be cracked.</p> <p>During the investigation process, a discrepancy was noticed in the statements between the aircraft maintenance organisation (AMO) and the pilot under training with regard to the cause of the cracked trunion. The right-hand trunion was sent for metallurgical analysis to determine the failure mode. The metallurgical report concluded that the trunion failed most probably due to a single induced overload force during operation of the aircraft and no clear indications of pre-failure crack formation were detected. The fact that the metallurgical report concluded that the failure was due to a single overload condition is in line with the evidence of a hard landing, which was initially reported by the flight crew.</p> <p>The flying school held a valid Aviation Training Organisation and Approval Certificate, no. CAA/0274, which was issued on 06 December 2006 with an expiry date of 06 December 2007.</p> <p>According to available records, the aircraft maintenance organisation (AMO) that certified the last mandatory periodic inspection (MPI) on the aircraft prior to the accident was in possession of a valid AMO Approval, no. 278, with an expiry date of 31 October 2007. The SACAA conducted an audit on the AMO on 05 September 2006.</p>						
Probable Cause						
The right-hand trunion assembly failed due to overload following a hard landing.						
IARC Date	21 April 2008		Release Date	Reviewed by EM office: AIID October 2009		