



SOUTH AFRICAN CIVIL AVIATION AUTHORITY

AIRCRAFT INCIDENT REPORT AND EXECUTIVE SUMMARY

Aircraft Registration	ZS-KSS	Date of Incident	11 November 2004	Time of Incident	1315Z
Type of Aircraft	Cessna 172 RG		Type of Operation	Private	
Pilot-in-command Licence Type	Private	Age	39	Licence Valid	Yes
Pilot-in-command Flying Experience	Total Flying Hours	170	Hours on Type	40	
Last point of departure	Platternberg Bay Aerodrome (FAPG)				
Next point of intended landing	Cape Town International Aerodrome (FACT)				
Location of the incident site with reference to easily defined geographical points (GPS readings if possible)					
Runway 19 at Cape Town International Aerodrome					
Meteorological Information	Temperature: 25°C. Surface Wind: 210°/25kts. CAVOK				
Number of people on board	1+1	No. of people injured	0	No. of people killed	0
Synopsis	<p>The pilot accompanied by a passenger took off from Pletternberg Bay on a private flight to Cape Town. On preparing for landing on Runway 19 at Cape Town International Aerodrome the pilot stated that he did the downwind landing checks, selected the undercarriage down but the green light did not illuminate. He decided to execute a go around in order to inspect and to attempt to rectify the situation. After all the emergency checks and the use of the emergency gear lever to manually lower the undercarriage were unsuccessful the pilot decided to execute a wheels-up landing.</p> <p>The aircraft was substantially damaged and the persons on board were not injured.</p> <p>The last MPI prior to the incident was certified on 9 September 2004 at 9535 total airframe hours and the aircraft was operated for 89 hours since the last MPI was certified. The Aircraft Maintenance organisation was audited in the last two years; the last audit was conducted on 17 September 2004.</p> <p>The Aircraft Maintenance Organisation (AMO) who repaired the aircraft found that the right hand main undercarriage actuator had failed. Although they cannot confirm the exact cause of this failure, but it would appear to be the result of an overload condition possibly as a result of the right leg striking something while in transit towards the down position.</p> <p>The metallurgical analysis revealed that the actuator failed in tensile overload, when the loading placed an abnormally high tensile loading on the pivot bearing housing. It is considered that such a loading may be developed if an attempt is made to retract the undercarriage whilst the aircraft weight is still being supported, and the squat switch fails to protect the system</p>				
Probable Cause					
<p>The undercarriage failed to lock in the down position and the pilot elected to execute a wheels-up landing.</p> <p>Further examination of the undercarriage revealed that the right hand undercarriage actuator had failed. The metallurgical analysis of the failed actuator revealed that it had failed in overload condition.</p>					
IARC Date		Release Date			