

**SOUTH AFRICAN CIVIL AVIATION AUTHORITY****ACCIDENT REPORT – EXECUTIVE SUMMARY**

<b>Aircraft Registration</b>	<b>ZS-HMC</b>	<b>Date of Accident</b>	3/8/2001	<b>Time of Accident</b>	1130Z
<b>Type of Aircraft</b>	ENSTROM F28		<b>Type of Operation</b>		Training
<b>Pilot-in-command Licence Type</b>	Commercial	<b>Age</b>	43	<b>Licence Valid</b>	Yes
<b>Pilot-in-command Flying Experience</b>	Total Flying Hours	1370	<b>Hours on Type</b>	1200	
<b>Last point of departure</b>	Wonderboom Airport (FAWB)				
<b>Next point of intended landing</b>	Wonderboom Airport (FAWB)				
<b>Location of the accident site with reference to easily defined geographical points (GPS readings if possible)</b>					
Tswaing Pan 16 nm NW of Wonderboom					
<b>Meteorological Information</b>	Weather was fine				
<b>Number of people on board</b>	1+1	<b>No. of people injured</b>	0	<b>No. of people killed</b>	0
<b>Synopsis</b>	<p>The instructor and his student took off from Wonderboom on a training flight to the Pretoria General Flying (GF) area No.1. At Tswaing Pan (“crater”) (16 nm NW of Wonderboom) the instructor took control of the helicopter and descended to approximately 200 ft above ground level.</p> <p>As the instructor opened the throttle and pulled the collective, he observed the engine over speeding (needles splitting – wrong way – eng. rpm up / rotor rpm down). The instructor and the student conducted training earlier in the morning and the student also completed a solo flight prior to the accident flight.</p> <p>The instructor then executed an autorotational landing into the crater. During the flare the tailrotor guard contacted the ground and was deflected into the main rotor blades causing it be severed.</p> <p>The occupants disembarked with no injuries.</p>				
<b>Probable Cause</b>					
The accident occurred as a result of an unsuccessful autorotation due to the clutch (free wheel unit) failure. The clutch unit failed as a result of the fatigue failure of a number of the sprag teeth, causing the unit to become inoperative. The fatigue failure of the teeth was most probably caused by the misalignment of the unit in relation to the shaft. The lack of lubrication could also have played a contributing role.					