



Ref: 0248

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

<b>Aircraft Registration</b>	<b>ZS-DZZ</b>	<b>Date of Incident</b>	04-10-2002	<b>Time of Incident</b>	0900Z
<b>Type of Aircraft</b>	PA24-400		<b>Type of Operation</b>	Private	
<b>Pilot-in-command License Type</b>	Private	<b>Age</b>	55 years	<b>License Valid</b>	Yes
<b>Pilot-in-command Flying Experience</b>	<b>Total Flying Hours</b>	1218.40 Hrs		<b>Hours on Type</b>	25.00 Hrs
<b>Last point of departure</b>	Lanseria Airport				
<b>Next point of intended landing</b>	Rustenburg Aerodrome				
<b>Location of the incident site with reference to easily defined geographical points (GPS readings if possible)</b>					
Rustenburg Aerodrome					
<b>Meteorological Information</b>	The weather was fine and the wind calm.				
<b>Number of people on board</b>	1	<b>No. of people injured</b>	Nil	<b>No. of people killed</b>	Nil

**Synopsis**

On 04-10-2002 at approximately 0900Z, the pilot was accompanied by an Avionics technician for a flight in the General Flying Area near Britz to perform an operational test of the new Garmin 430 system fitted to the aircraft.

Approximately 15 minutes after take-off, the pilot experienced a partial radio failure and the avionics system became inoperative. He elected to divert to Rustenburg but during extension of the undercarriage he experienced a total electrical failure.

The pilot then utilized the undercarriage emergency extension system and the visual indicators showed that the undercarriage appeared to be down and locked.

Upon landing, the aircraft rolled for approximately 150m when the right-hand main undercarriage collapsed followed by the nose and left-hand main undercarriage.

It was established that the electrical system 90 amp circuit protector to the alternator and voltage regulator contact point was completely worn and loose causing arcing and a short circuit inside the circuit protector.

The last MPI was carried out on 09-05-2002 at a total of 2784.40 hours. The incident occurred 16.20 hours after the last MPI.

The pilot was correctly licenced and the type endorsed in his licence.

**Probable Cause**

The electrical system 90 amp circuit protector to the alternator and voltage regulator contact point was completely worn and loose causing arcing and a short circuit inside the circuit protector. The most probable cause for the undercarriage to collapse is that the pilot failed to utilize the emergency extension system as prescribed.

