



Ref: 7623

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

Aircraft Registration	ZS-FIE	Date of Accident	26 January 2003	Time of Accident	1015Z
Type of Aircraft	CESSNA 172	Type of Operation	Private		
Pilot-in-command Licence Type	Private	Age	26	Licence Valid	Yes
Pilot-in-command Flying Experience	Total Flying Hours	51.5	Hours on Type	30.3	
Last point of departure	Runway 29, FAGM, Rand aerodrome				
Next point of intended landing	FAGM				

Location of the accident site with reference to easily defined geographical points (GPS readings if possible)

Approximately 100m from the threshold of Runway 29, FAGM.

Meteorological Information	CAVOK, Wind South Westerly at 10 Knots. Temperature: 25°C				
Number of people on board	1 + 1	No. of people injured	Nil	No. of people killed	Nil

Synopsis

The private pilot was accompanied by a passenger on a flight from Rand airport to Lanseria airport when approximately 50m into the take-of run and at an airspeed of approximately 30 knots the pilot heard a loud bang where after the nose went down and the aircraft skidded on the tarmac for a further 30m before coming to rest on the runway.

Both occupants vacated the aircraft with no injuries.

Inspection of the aircraft revealed that the nose gear fork had failed and had separated from the nose gear oleo strut during the take-of run, which also caused the propeller to strike the ground. The right-hand wing was also damaged when it made contact with the runway .

Probable Cause

The nose gear fork failed during the take-off run as a result of fatigue cracks in both fork arms that had propagated through the material over time and weakened the fork to such an extent that the remaining material could no longer sustain the load resulting in an overload failure.

It is further believed that nose wheel shimmy over a long period of time caused cyclic loading of the nose fork and resulted in the formation of the fatigue cracks in both fork arms.