



J10/2/7139

A99-148

# SOUTH AFRICAN CIVIL AVIATION AUTHORITY

## ACCIDENT REPORT – EXECUTIVE SUMMARY

<b>Date of Accident</b>	30/12/1999	<b>Time of Accident</b>	0430Z	
<b>Aircraft Registration</b>	<b>ZS-LOA</b>	<b>Type of Aircraft</b>	<b>Rockwell Intl S-2R</b>	
<b>Pilot-in-command Licence Type</b>	Commercial		<b>Licence Valid</b>	Yes
<b>Pilot-in-command Flying Experience</b>	Total Flying Hours	13 036.0	Total Hours on Type	11 000.0
<b>Type of Operation</b>	Commercial			
<b>Last point of departure</b>	Parys Aerodrome			
<b>Next point of intended landing</b>	Farm - La Rochelle			

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

200m South of the threshold of Runway 06 - Parys

<b>Meteorological Information</b>	Fine				
<b>Number of people on board</b>	1	<b>No. of people injured</b>	None	<b>No. of people killed</b>	None

**Synopsis**

The pilot departed off Runway 24 at Parys Aerodrome, after lift-off he turned out left. At approximately 100 feet above ground level he heard a strange winding noise, shortly thereafter the engine backfired. A few seconds later it backfired again and the engine failed.

The pilot attempted to land back on the grass runway but the right wing tip struck the ground followed by the landing gear  
The aircraft ground looped approximately 30 meters from the point of first impact.

The pilot was uninjured in the accident.

**Probable Cause**

The supercharger impeller Part No. 12788 failed shortly after take-off, causing a substantial engine power loss. The cause of the impeller failure could be contributed to the deformation of the carrier ring Part No. 47033, causing excessive play on the impeller shaft. As results of excessive play on the shaft the impeller made contact with inlet casing. Rotating at 7 times engine rpm the impeller shaving against the casing led to metal fatigue and subsequent failure of several of the impeller vanes.