		CA18/2/3/7906			
		SOUTH AFRICAN CIVIL AVIATION AUTHORITY ACCIDENT REPORT – EXECUTIVE SUMMARY			
Aircraft Registration	N7478S	Date of Accident	18 January 2005	Time of Accident	Unknown
Type of Aircraft	AEROSTAR 600		Type of Operation	Private	
Pilot-in-command Licence Type	(RSA) ALTP	Age	62	Licence Valid	Yes
Pilot-in-command Flying Experience	Total Flying Hours	5929.15		Hours on Type	Unknown
Last point of departure	Wonderboom Aerodrome (FAWB)				
Next point of intended landing	Springs Aerodrome (FASI)				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)					
Near the town of Cornelia in the Free State, Republic of South Africa. (GPS position South 27°17'38.4" East 028°50'16.5" at an Elevation of 5290 ft AMSL)					
Meteorological Information	Partly cloudy with isolated thundershowers				
Number of people on board	1+4	No. of people injured	0+0	No. of people killed	1+4
Synopsis	<p>On 18 January 2005, at approximately 1340Z, the pilot accompanied by 4 passengers, took off on a private flight from FAWB (Wonderboom Aerodrome) to Harrismith. The pilot advised the FAWB ATC (Wonderboom Air Traffic Controller) that the intended destination was Springs via Delmas.</p> <p>Sometime after 1455Z the aircraft crashed near Cornelia in the Free State, Republic of South Africa.</p> <p>The pilot held a valid medical certificate as a commercial pilot in South Africa and he was the holder of a valid South African Commercial Pilot's licence and appropriately rated on the aircraft type. It could not be established if the pilot was the holder of any aircrew licence as issued by the FAA.</p> <p>The Federal Aviation Administration and National Transportation Safety Board assistance was requested, but no maintenance records for the aircraft could be located.</p> <p>The aircraft was intact prior to the accident.</p> <p>According to the official weather report, the most likely weather conditions at the place of the accident were partly cloudy with isolated thundershowers. Although there were no eyewitnesses to the accident, local inhabitants reported a severe storm in the vicinity of the accident site at the estimated time of the accident.</p>				
Probable Cause					
The pilot may have lost control of the aircraft due to adverse weather conditions and entered a spiral whilst descending for landing at Harrismith.					



AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : Aquilla Air Inc
Manufacturer : Aerostar Aircraft Corporation
Model : PA-60-600
Nationality : United States of America
Registration Marks : N7478S
Place : Cornelia in Orange Free State,
 Republic of South Africa
Date : 18 January 2005
Time : after 1455Z

All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.

Purpose of the Investigation :

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (1997) this report was compiled in the interests of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and **not to establish legal liability.***

Disclaimer:

This report is given without prejudice to the rights of the CAA, which are reserved.

1. FACTUAL INFORMATION

1.1 History of Flight

1.1.1 On 18 January 2005 at approximately 1340Z, the pilot accompanied by 4 passengers, took off on a private flight from FAWB (Wonderboom Aerodrome) to FAHS (Harrismith aerodrome). However, the pilot advised the FAWB ATC (Wonderboom Air Traffic Controller) that the intended destination was Springs via Delmas.

1.1.2 Sometime after 1455Z the aircraft impacted the ground at a high descent rate and high forward speed on a heading of 260°M in a 15° nose-down and 30° right-wing low attitude, whilst the nose of the aircraft was facing in a direction of 211°M, near Cornelia. Partly cloudy weather conditions, with isolated thundershowers prevailed at the time of the accident. Although there were no eyewitnesses to the accident, local inhabitants reported a severe storm in the vicinity of the accident site at the estimated time of the accident. The

occupants were fatally injured and the aircraft destroyed on impact.



Photo 1: Initial Impact Mark. Heading 260°. It can be seen from the photo that the Aircraft was in a 30° right-wing low attitude during the initial impact.

1.2 Injuries to Persons

Injuries	Pilot	Crew	Pass.	Other
Fatal	1	-	4	-
Serious	-	-	-	-
Minor	-	-	-	-
None	-	-	-	-

1.3 Damage to Aircraft

1.3.1 The aircraft was destroyed during the accident sequence.



Photo 1: Wing Centre Section viewed from behind and R/H Engine on the right



Photo 2: Nose Landing Gear



Photo 3: Wing Centre Section viewed from the front & R/H Engine on the left

1.4 Other Damage

1.4.1 The damage was limited to the vegetation in the area of the accident.

1.5 Personnel Information

1.5.1 The FAA (Federal Aviation Administration) was contacted through the NTSB (National Transportation Safety Board) to determine whether the pilot had been issued with an American validation or was the holder of an FAA flight crew licence. No such information could be located by this body.

1.5.2 Information obtained from the South African Civil Aviation Authority (SACAA) pilot's file is as follows:

Nationality		South African			
RSA Licence	Yes	Gender	Male	Age	62
Licence valid		Yes	Type Endorsed	Yes	
Ratings		Instrument – Valid until 22 Sept 2005 Night Safety Pilot Test Flight			
Medical Expiry Date		30 September 2005			
Restrictions		Corrective Lenses Myocardial Infarction (Coronary Bypass) (MI)/PTCA/CABG/Protocol Diabetes Mellitus Protocol			

1.5.2 Flying Experience:

1.5.2.1 The pilot's personal logbook could not be located.

1.5.2.2 According to information obtained from the SACAA (Civil Aviation Authority) pilot's file, his experience comprised the following as on 20 September 2004 when he renewed his licence.

Total Hours	5929.15
Total Past 6 Months	18.40
Total Past 12 Months	71.50
Total on Type Past 90 Days	Unknown
Total on Type	Unknown
Instrument Flying For the year prior to renewing his licence on 20 September 2004.	1.2

1.6 Aircraft Information

1.6.1 General

On 12 September 1996, a Special Airworthiness Certificate, valid until 1 September 1997, was issued by the FAA to Ross Merry, an agent for Telford Aviation Inc (No longer in existence), to ferry the aircraft directly from Bangor, Maine, USA (United States of America) to Lanseria (FALA) in South Africa. This followed on the installation of a temporary ferry fuel system in the aircraft.

1.6.2 No records could be located to determine when and by whom the aircraft was brought to South Africa.

1.6.3 The NTSB (National Transportation Safety Board) could not locate any maintenance records from the FAA (Federal Aviation Administration) for the above aircraft.

Airframe:

Type	Aerostar 600	
Serial #	60-0041-90	
Manufacturer	Smith	
Year of Manufacture	1969	
Total Airframe Hours (At time of Accident)	Unknown <i>(L/H Tachometer not connected No R/H Tachometer fitted)</i>	
Last MPI(Date & Hours)	Unknown*	Unknown*
Hours since Last MPI	Unknown*	
C of A (Issue date)	Unknown*	
C of R (Issue Date)	Unknown*	
Operating Categories	Unknown*	

Engine 1 (Left):

Type	Lycoming IO-540 GLB5
Ser #	L7471-48
Hours since New	Unknown*
Hours since Overhaul	Unknown*

Propeller 1 (Left):

Type	Hartzell HC-C3YR-2UF
Ser #	CK1032
Hours since New	Unknown*
Hours since Overhaul	Unknown*

Engine 2 (Right):

Type	Lycoming IO-540 GLB5
Ser #	L7393-48
Hours since New	Unknown*
Hours since Overhaul	Unknown*

Propeller 2 (Right):

Type	Hartzell HC-C3YR-2UF
Ser #	CK389
Hours since New	Unknown*
Hours since Overhaul	Unknown*

Unknown (No available logbooks or any other form of documentation could be obtained for this aircraft.)

1.6.3.1 As this aircraft remained on the USA register, the appropriate authority responsible for oversight of the operation and maintenance of the aircraft would have been the FAA of the USA. However, no records could be provided by the FAA in respect of whether the required maintenance had in fact been performed on the aircraft whilst operated in South Africa since its importation.

1.6.4 CAR Part 91.03.7 requires that a valid certificate, issued by an appropriate authority should be in existence prior to operation of a foreign-registered aircraft within South African territory.

1.6.5 Weight and Balance

1.6.5.1 No actual Weight-and-Balance data was available for the ill-fated aircraft. The Weight-and-Balance of the aircraft was therefore based on that of a similar aircraft.

ITEM	WEIGHT	ARM	MOMENT (1000 lb in)
Aircraft Licenced Weight And Moment	3470	163.27	566.53
Pilot	170	96.0	16.32
Co-Pilot	170	96.0	16.32
Front-Seat Passengers	170	132	22.44
Rear-Seat Passengers	340	165	56.1
Baggage (Maximum 240 lbs)	200	208.33	50.00
Oil (24 Qts @ 1.875 lbs/qt)	*	*	*
Wing Fuel (124 Gals)	744	170	126.48
Fuselage Fuel (41.5 Gals)	249	213.01	53.04
POINT I Most rearward CG location (Take-off weight)	5513	164.56	907.23
SUBTRACT FUEL LISTED ABOVE			
Wing 124 Gals	-744	170	-126.48
Fuselage 41.5 Gals	-249	213.01	-53.04
ADD MINIMUM FUEL RESERVE 24.6 Gals	+148	212.97	+31.52
POINT II Most fwd CG location (Landing weight)	4668	162.65	759.23
NOTE Take-off weight must not exceed 5500 lbs gross weight.			

1.6.5.2 From the above calculation it can be seen that the ill-fated aircraft was probably loaded to the maximum allowable take-off weight, or perhaps slightly over.

1.6.5.3 The Centre of Gravity Range is between 158.0" (Actual is 164.56" eg: Rear CG Limit) and 168.0" (Actual is 162.65" eg: Fwd CG Limit). It would therefore appear that both the Rear CG as well as the Fwd CG were within the Envelope as per the Flight Manual of the aircraft.

Note:

Although it was probably raining heavily at the time of the accident, a strong smell of fuel was still present at the accident site during the on-site investigation, implying that a sizable amount of fuel was still on board at the time of impact.

1.7 Meteorological Information

Wind direction	100°	Wind speed	10 Kt	Visibility	Unknown
Temperature	23°C	Cloud cover	Broken with ISOL CB	Cloud base	2000'
Dew point	Unknown				

1.7.1 There were no witnesses to this accident. According to the official weather report, the above conditions prevailed in the vicinity at 1500Z. No official weather observations are available of the weather conditions at the time and place of the accident. However, the most likely weather conditions at the place of the accident were partly cloudy with isolated thundershowers. Although there were no eyewitnesses to the accident, local inhabitants reported a severe storm in the vicinity of the accident site at the estimated time of the accident.

1.7.2 Surface analysis (1500Z on 18 January 2005).

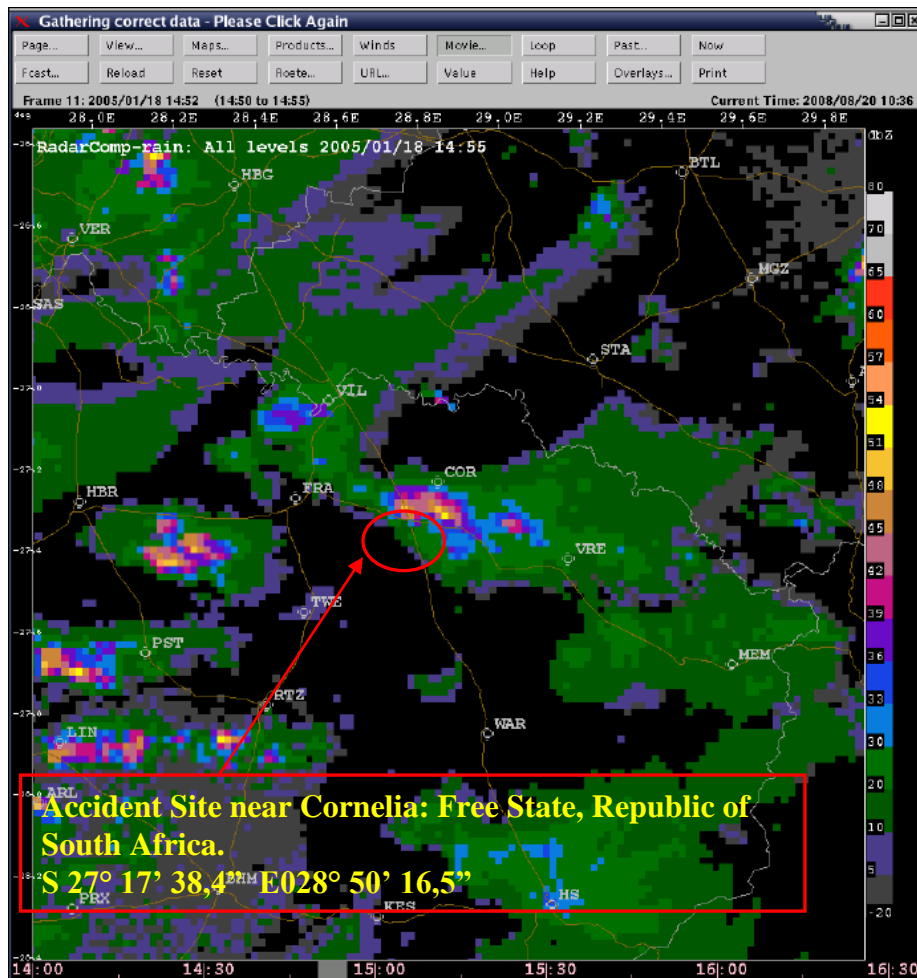
1.7.2.1 A trough was present over the central parts of the country with a high ridging south of the country, feeding moist air in over the eastern part of the country. Thunderstorms were developing over a broad area over the eastern part of the country.

1.7.3 Upper Air Analysis.

1.7.3.1 A cut-off low pressure was present just west of the country, with westerly winds in the Cornelia area at 500 hPa.

1.7.4 Satellite Imagery.

1.7.4.1 The satellite imagery shows thunderstorms in the Cornelia area.



1.8 Aids to Navigation

1.8.1 The aircraft was equipped with standard navigational equipment. The extent of the destruction of the aircraft during the accident sequence, made it impossible to determine whether all or any of this equipment was functional or not.

1.8.2 It could therefore not be established whether the aircraft's transponder was selected "on" or "off". However, no transponder code was given to the pilot, nor was any identification signal received by any ATS (Air Traffic Services) station.

1.9 Communications.

1.9.1 The pilot, accompanied by 4 passengers, took off from FAWB on 18 January 2005 at approximately 1250Z for a private flight to Harrismith. However, the pilot informed the FAWB ATC (Wonderboom Air Traffic Controller) that he is en-route to Springs via Delmas.

1.9.2 There was no further recorded information.

1.9.3 At approximately 1455Z, one of the occupants in the aircraft called a relative in Harrismith with his mobile phone, informing the relative that they should be landing in Harrismith in approximately 20 minutes' time. However, the aircraft never arrived.

1.10 Aerodrome Information

Aerodrome Location	2 NM NNW of Harrismith
Aerodrome Co-ordinates	S28° 14.1' E029° 06.5'
Aerodrome Elevation	5585'
Runway Designations	15 / 33
Runway Dimensions	1200m (3937') x 15m
Runway Used	Not applicable
Runway Surface	Tar
Approach Facilities	NDB HS 482.5 S28° 14.14' E029° 06.22'

1.11 Flight Recorders

1.11.1 The aircraft was not equipped with a FDR (Flight Data Recorder) or a CVR (Cockpit Voice Recorder).

1.12 Wreckage and Impact Information

1.12.1 The accident occurred during daytime in the Cornelia district, at a GPS position of S 27°17'38,4" and E028°50'16,5". The site elevation was determined as 5290 ft AMSL.

1.12.2 The aircraft impacted the ground at a high descent rate and high speed on a heading of 260°M. The aircraft was in a 15° nose-down attitude during impact and the right wing was low by approximately 30°. Evidence on the scene indicated that the aircraft was in a right-hand turn during the initial impact.

1.13 Medical and Pathological Information

1.13.1 It could not be established if the pilot was the holder of any aircrew licence as issued by the FAA.

1.13.2 The pilot held a valid, restricted Medical Certificate as an Airline Transport Pilot in South Africa, which expired on 31 March 2006.

1.13.3 According to the pilots' South African medical certificate, he was restricted to Myocardial Infarction (Coronary Bypass)

(MI)/PTCA/CABG/Protocol and Diabetes Mellitus Protocol. These protocols entail six-monthly check-ups. The pilot obtained his medical certificate approximately one month prior to this accident. The above (Myocardial Infarction and Diabetes Mellitus) was therefore not considered as contributing factors.

1.13.4 According to the Medico-Legal Post-Mortem Examination the cause of death of the pilot was as a result of multiple injuries due to massive mutilating destruction of most organs. A blood sample was examined by the Forensic Chemistry Laboratory, but the total haemoglobin concentration was too low for a reliable result.

1.14 Fire

1.14.1 There was no fire. According to the available information, it was raining heavily at the time of the accident and a strong smell of fuel was still present at the accident site during the on-site investigation, implying that adequate fuel was still on board at the time of impact.

1.15 Survival Aspects

1.15.1 The aircraft impacted the ground at a high descent rate and high forward speed, with a nose-down and right-wing low attitude. The aircraft disintegrated during the accident sequence and the deceased were located on an average distance of approximately 230m from the initial impact point. The magnitude of the impact rendered the accident as a non-survivable accident.

1.16 Tests and Research.

1.16.1 Aircraft Airworthiness Status

1.16.1.1 Maintenance Records.

No technical documentation regarding the aircraft could be obtained locally or from the NTSB (National Transportation Safety Board) or FAA (Federal Aviation Administration). No logbooks could be located locally for the aircraft nor could the NTSB or the FAA locate any logbooks.

1.16.1.2 Inventory.

Due to the severity of the impact and the severe disintegration of the aircraft, it was identified that there was a need to determine whether the aircraft broke up in flight. It was established that the aircraft did not disintegrate in flight. The following major components were accounted for

during the on-site investigation, all in the immediate proximity of the accident site:

1. Both wings and wing tips
2. Both L/H and R/H Ailerons
3. Both L/H and R/H Wing Flap(s)
4. The Vertical Stabilizer and Rudder
5. The Horizontal Stabilizer and both Elevator(s)
6. Nose- and Tail cone(s) of the aircraft
7. Both Engines
8. Both Propellers, including all blades
9. The complete fuselage and cabin area.

On-site investigation revealed that the landing gear was retracted (as indicated by the actuators) and the flap(s) were retracted (as indicated by the actuators) at the time of impact.

1.16.1.3 Flight control systems

The aircraft was severely broken up during the accident sequence. However, during the on-site investigation it was determined that positive connections existed between all flight controls and flight control surfaces. As a result of the severe break-up of the aircraft during the accident sequence, it was not possible to establish the integrity and continuity of the said systems.

1.16.1.4 Engine(s) Examination

The engines were recovered to an approved maintenance facility where they were dismantled and inspected. The purpose of the investigation was to determine whether there could have been an engine failure. The results of the investigation were as follows:

Left-hand Engine		Right-hand Engine	
Item checked	Result	Item checked	Result
<i>Engine Type</i>	Lycoming IO-540 GLB5	<i>Engine Type</i>	Lycoming IO-540 GLB5
<i>Engine Serial</i>	L7471-48	<i>Engine Serial</i>	L7393-48

<i>Number</i>		<i>Number</i>	
<i>L/H Magneto</i>	Model: S6LN-1208 S/N: A244448 P/N: IO 349290-1 Internal timing correct. Timing to engine correct at 25° BTDC. Badly worn nut and split pin on magneto drive.	<i>L/H Magneto</i>	Model: S6LN-1208 S/N: A244448 P/N: IO 349290-1 Internal timing correct. Timing to engine correct at 25° BTDC.
<i>R/H Magneto</i>	Model: S6LN-1209 S/N: A244463 P/N IO 349310-1 Internal timing correct. Timing to engine correct at 25° BTDC.	<i>R/H Magneto</i>	Model: S6LN-1209 S/N: A244463 P/N IO 349310-1 Internal timing correct. Timing to engine correct at 25° BTDC.
<i>Cylinders</i>	All cylinders corroded, but within dimensional limitations.	<i>Cylinders</i>	All cylinders (chrome) corroded, but within dimensional limitations.
<i>Pistons & Rings</i>	All pistons worn (scoured) and showing severe evidence of blow-by, but within dimensional limitations. Rings not broken.	<i>Pistons & Rings</i>	All pistons worn (scoured) and showing severe evidence of blow-by, but within dimensional limitations. Rings not broken.
<i>Main bearings & Big-end bearings</i>	All bearings in fair condition	<i>Main bearings & Big-end bearings</i>	All bearings in fair condition
<i>Camshaft bearings</i>	Bearings in fair condition	<i>Camshaft bearings</i>	Bearings in fair condition
<i>Fuel Pump</i>	Fuel pump inlet fitting broken. Dismantling and inspection shows no evidence of excessive wear.	<i>Fuel Pump</i>	At 2500 RPM the pump delivered 450 pph which is within the specified limits at 20 psi inlet pressure.
<i>Fuel Injectors</i> <i>(Should deliver 32 pph at an inlet pressure of</i>	1 – 28.5 2 - 30 3 – 29.5 4 - 30	<i>Fuel Injectors</i> <i>(Should deliver 32 pph at an inlet pressure of</i>	1 – 29.25 2 – 30.75 3 - 30 4 - 29

<i>12psi)</i>	5 - 30 6 – 30	<i>12 psi)</i>	5 – 30.25 6 – 28.75
<i>Spark Plugs & HT Leads</i>	Except for accident-related damage, all the spark plugs and High Tension Leads appeared to be in an acceptable condition.	<i>Spark Plugs & HT Leads</i>	Except for accident-related damage, all the spark plugs and High Tension Leads appeared to be in an acceptable condition.
<i>Tachometer</i>	Tachometer fitted - not connected	<i>Tachometer</i>	No Tachometer fitted – blanked off
<i>Vacuum Pump</i>	Drive shaft failed, but blades inside were intact.	<i>Vacuum Pump</i>	Drive shaft failed, but blades inside were intact.
<i>Fuel flow Divider</i>	Delivers 165 pph at an inlet pressure of 4.5 psi. The minimum required is 135 pph.	<i>Fuel flow Divider</i>	Delivers 170 pph at an inlet pressure of 4.5 psi. The minimum required is 135 pph.
<i>Oil Filter</i>	Dirty oil but no traces of metal particles	<i>Oil Filter</i>	Dirty oil but no traces of metal particles
<i>Rockers & Rockershafts</i>	All intact and in operating condition. Clearances within limits.	<i>Rockers & Rockershafts</i>	All intact and in operating condition. Clearances within limits.
<i>Inlet valves</i>	All intact and within wear limitations.	<i>Inlet valves</i>	All intact and within wear limitations.
<i>Exhaust valves</i>	All intact and within wear limitations.	<i>Exhaust valves</i>	All intact and within wear limitations.
<i>Inlet valve guides</i>	All intact and within wear limitations	<i>Inlet valve guides</i>	All intact and within wear limitations.
<i>Exhaust valve guides</i>	All intact and within wear limitations	<i>Exhaust valve guides</i>	All intact and within wear limitations.
<i>Gear train</i>	Intact	<i>Gear train</i>	Intact
<i>Hydraulic Pump</i>	Not Fitted: Blanked off.	<i>Hydraulic Pump</i>	Pump fitted and appears to be in good condition.

Based on the above findings, it was concluded that there was no engine failure on either the left-hand or right-hand engines.

1.16.1.5 Propeller Examination

The propellers were recovered to an approved maintenance facility where they were dismantled and inspected to determine a possible failure during flight. The results of the investigation were as follows:

Left-hand Propeller		Right-hand Propeller	
Item checked	Result	Item checked	Result
<i>Propeller Type</i>	Hartzell HC-C3YR-2UF	<i>Propeller Type</i>	Hartzell HC-C3YR-2UF
<i>Propeller Serial Number</i>	CK1032	<i>Propeller Serial Number</i>	CK389
<i>CSU (Required: Output pressure of 320 +- 10 psi at 50 +-5 psi inlet pressure at 1750 RPM).</i>	At 50 psi input pressure the CSU delivers an output pressure of 370 psi at 1750 RPM. No internal leaks.	<i>CSU (Required: Output pressure of 320 +- 10 psi at 50 +-5 psi inlet pressure at 1750 RPM).</i>	At 50 psi input pressure the CSU delivers an output pressure of 315 psi at 1750 RPM. No internal leaks.

<i>Blades</i>	<p>Actuating shaft missing.</p> <p>SB 165E not carried out (old hub).</p> <p>Blade model does not tie up with hub, ie: blades were changed at some unknown time.</p> <p>All blades in course angle as per the course pitch pin damage.</p>	<i>Blades</i>	<p>Blade 1 – No counterweight. Bent forward.</p> <p>Blade 2 – Broken on impact at mid-span. Blade angle course.</p> <p>Blade 3 – Bent backwards, including foreign object damage.</p>
---------------	--	---------------	---

Based on the above findings it is concluded that there was no propeller failure on either the left or right-hand propellers. Both the R/H and the L/H propeller blades were in the course pitch at the time of the accident. This is an indication that the propellers were in a cruising setting, ie: producing power, at the time of the accident.

1.17 Organisational and Management Information

1.17.1 This was a private flight.

1.18 Additional Information

1.18.1 Search and Rescue

1.18.1.1 There were no witnesses to the accident.

1.18.1.2 At 1455Z, one of the occupants in the aircraft called a relative in Harrismith with his mobile phone, informing him that they should be landing in Harrismith in approximately 20 minutes. However, the aircraft never arrived.

1.18.1.3 Shortly after this, the relative informed Johannesburg ATNS Filter Centre by telephone that the aircraft was missing and an aerial search was launched.

1.18.1.4 The wreckage of the aircraft was located the following day, 19 January 2005 at approximately 1200Z by one of the aircraft participating in the search.

1.18.1.5 An investigating team from the SACAA was dispatched on the same day to carry out an investigation into the cause of the accident.

1.18.1.6 Operational information

The Pilot-in-Command was an aircraft salesman, based at Wonderboom airport. According to information received, he had sold another aircraft to one of the occupants that was a passenger in the aircraft at the time of the accident.

1.19 Useful or Effective Investigation Techniques

1.19.1 None

2. ANALYSIS

- 2.1 Although the pilot had a valid South African Commercial pilot's licence and medical certificate, no evidence could be obtained as to whether he was a holder of an FAA issued aircrew licence.
- 2.2 The information provided by the pilot to the FAWB Air Traffic Controller implied that the intended destination was Springs via Delmas. However, it would appear as if the actual destination was in fact Harrismith. No flight plan was filed, nor was it required for the intended VFR flight.
- 2.3 The exact impact time could not be established, but the accident occurred some time after 1455 when a passenger called a relative on his cell phone indicating that they would be landing in 20 minutes' time, i.e. 1515Z. This implies that the total flight time would have been about 1 hour 35 minutes.
- 2.3 No evidence could be found as to whether there was a maintenance schedule and to what maintenance schedule the aircraft was maintained, or whether the aircraft was airworthy at the time of the accident.
- 2.4 The witness marks at impact and the distance covered by the wreckage trail suggested that the aircraft impacted the terrain at high speed whilst in a descending right hand turn. This implies that the pilot may have lost control of the aircraft and entered a spiral, whilst descending for landing at Harrismith.
- 2.5 The extent of the destruction of the aircraft during the accident sequence made it impossible to determine whether the aircraft's transponder was on/off. However, no transponder code was given to the pilot, nor was any signal picked up by any ATS(Air Traffic Services) station.
- 2.6 The Pilot-in-Command was an aircraft salesman, based at Wonderboom airport. According to information received, he had sold another aircraft to one of the occupants in the aircraft at the time of the accident. Unsubstantiated information implied that part of the deal was that he would fly this person around until such time that the aircraft that was sold to him, was ready for delivery.

3. CONCLUSIONS

3.1 Findings

- 3.1.1 The pilot, accompanied by 4 passengers, took off from FAWB on 18 January 2005 at approximately 1250Z for a private flight to Harrismith. However, the pilot informed the FAWB ATC that he was en-route to Springs via Delmas.
- 3.1.2 Sometime after 1455Z the aircraft impacted the ground at a high descent rate and high speed on a heading of 260°M in a 15° nose-down attitude and the right wing low by 30°, while the nose of the aircraft faced in the direction of 211°M, near Cornelia, fatally injuring all the occupants on board and destroying the aircraft.
- 3.1.3 It could not be established if the pilot was the holder of any aircrew licence as issued by the FAA. However, the pilot was the holder of a valid South African Commercial Pilot's licence with a valid medical certificate and was rated on the aircraft type. He held an Instrument Rating (Valid until 22 Sept 2005) as well as Night, Safety Pilot and Test Flight ratings.
- 3.1.4 On 12 September 1996, a Special Airworthiness Certificate, valid until 1 September 1997, was issued by the Federal Aviation Administration to Ross Merry, an agent for Telford Aviation Inc, after installing a temporary ferry fuel system in the aircraft, to ferry the aircraft directly from Bangor, Maine in the USA (United States of America) to Lanseria (FALA) in South Africa. It would appear as if the aircraft had been based and operated in South Africa since that time.
- 3.1.5 The Federal Aviation Administration and National Transportation Safety Board assistance were requested to provide maintenance records, but no maintenance records for the aircraft could be located.
- 3.1.6 The aircraft was equipped with standard navigational equipment. The extent of the destruction of the aircraft during the accident sequence, made it impossible to determine whether all or any of this equipment was functional or not.
- 3.1.7 The aircraft was intact prior to the accident.
- 3.1.8 The L/H engine was fitted with a Tachometer but it was disconnected. The R/H engine had no Tachometer fitted.
- 3.1.9 According to the official weather report, the most likely weather conditions at the place of the accident were partly cloudy with isolated thundershowers. Although there were no eyewitnesses to the accident, local inhabitants reported a severe storm in the vicinity of the accident site at the estimated time of the accident.

3.2 Probable Cause/s

- 3.2.1 The pilot may have lost control of the aircraft due to adverse weather conditions and entered a spiral whilst descending for landing at Harrismith.

4. SAFETY RECOMMENDATIONS

- 4.1 The SACAA should stress the advantage and importance of submitting a flight plan by means of an NOTAM or an article in the Safety Link.
- 4.2 The SACAA should stress the dangers involved in flying in adverse weather conditions by means of an article in the Safety Link.
- 4.3 The SACAA should establish a method to improve the flying experience records of pilots, and should update such records more frequently and accurately.
- 4.4 The SACAA should establish a method to establish the status of foreign-registered aircraft parked on aerodromes for extended periods of time in terms of ownership and airworthiness status, including maintenance records and Air Service Licences.
- 4.5 The FAA as the authority of the State of Registry should ensure that aircraft operated outside of the United States of America are subjected to and in compliance with prescribed maintenance requirements.

Compiled by:

J.J. du Plessis

Revised: Office of Executive: Manager: Accident and Incident investigation
Department

Date : 21 August 2008