

AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8810	
Aircraft Registration	ZU-ESB	Date of Accident	24 July 2010		Time of Accident	1030Z
Type of Aircraft	A-22L Foxbat		Type of Operation	Private		
Pilot-in-command Licence Type	NPL		Age	17	Licence Valid	Yes
Pilot-in-command Flying Experience	Total Flying Hours		47,2		Hours on Type	47,2
Last point of departure	Light Flight aerodrome near Cato Ridge, KwaZulu-Natal					
Next point of intended landing	Light Flight aerodrome near Cato Ridge, KwaZulu-Natal					
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
On a sugarcane field in the Wartburg area. GPS position: S 29° 26.185' E 030° 33.684'						
Meteorological Information	The weather was fine. Temp: 22°C; Wind: calm					
Number of people on board	1 + 1	No. of people injured	0	No. of people killed	2	
Synopsis						
<p>According to available information, the pilot was issued with a valid National Pilot's Licence by Recreation Aviation Administration South Africa (RAASA) on 14 July 2010 after passing his flight test on 8 July 2010. He received his pilot's licence by courier post on the morning of 24 July 2010.</p> <p>On the same morning, the pilot took off at approximately 0930Z on a local flight from Light Flight aerodrome near Cato Ridge with his mother as a passenger. The flight was uneventful and the aircraft returned to the aerodrome at approximately at 1000Z.</p> <p>The pilot, this time accompanied by his father as a passenger, took off again just after 1000Z on another local flight and headed in a northerly direction towards Wartburg. There were about 40 litres of fuel on board.</p> <p>The aircraft flew over the Christian Revival Church property in Wartburg at approximately 1030Z, heading north. The pastor of the church, who was working in the grounds, recognised the pilot, who in turn rocked the wings of the aircraft in greeting. The pastor waved back at the pilot. He then heard a sudden bang and saw a piece of the right wing falling from the aircraft. He realised that the wing had struck the nearby MTN cellular base station mast. The wing folded backwards and the aircraft spiralled clockwise into a sugarcane field.</p> <p>The aircraft was destroyed during the accident and the pilot and passenger were fatally injured.</p>						
Probable Cause						
<p>The aircraft was flying at low attitude when its right wing collided with an MTN cellular base station mast.</p> <p><u>Contributory factors:</u></p> <ol style="list-style-type: none"> 1) Pilot's attention distracted whilst greeting a person on the ground; 2).Sunlight on the windscreen from the direction in which the pilot was flying. 						
IARC Date			Release Date			



AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : Sting Aerial Surveys and Aviation CC
Manufacturer : Aeroprakt
Model : A-22L
Nationality : South Africa
Registration Marks : ZU-ESB
Place : Wartburg, KwaZulu-Natal.
Date : 24 July 2010
Time : 1030Z

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 interest 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 According to available information, the pilot was issued with a valid National Pilot's Licence by Recreation Aviation Administration South Africa (RAASA) on 14 July 2010 after passing his flight test on 8 July 2010. He received his pilot's licence by courier post on the morning of 24 July 2010.
- 1.1.2 On the same morning, the pilot took off at approximately 0930Z on a local flight from Light Flight aerodrome near Cato Ridge, KwaZulu-Natal with his mother as a passenger. The flight – in a southerly direction over the Eston and Richmond area – was uneventful and the pilot and passenger landed back at Light Flight aerodrome at approximately at 1000Z.
- 1.1.3 The pilot, this time accompanied by his father as a passenger, took off again just after 1000Z on another local flight and headed in a northerly direction towards Wartburg. There were about 40 litres of fuel on board.



Figure 1. The accident aircraft shortly after it was built.

1.1.4 The aircraft flew over the Christian Revival Church property in Wartburg at approximately 1030Z, heading north. The pastor of the church, who was working in the grounds, recognised the pilot, who in turn rocked the wings of the aircraft in greeting. The pastor waved back at the pilot. He then heard a sudden bang and saw a piece of the right wing falling from the aircraft. He realised that the wing had struck the nearby MTN cellular base station mast. The wing folded backwards and the aircraft spiralled clockwise into a sugarcane field.

1.1.5 The aircraft was destroyed during the impact sequence, and the pilot and passenger were fatally injured.

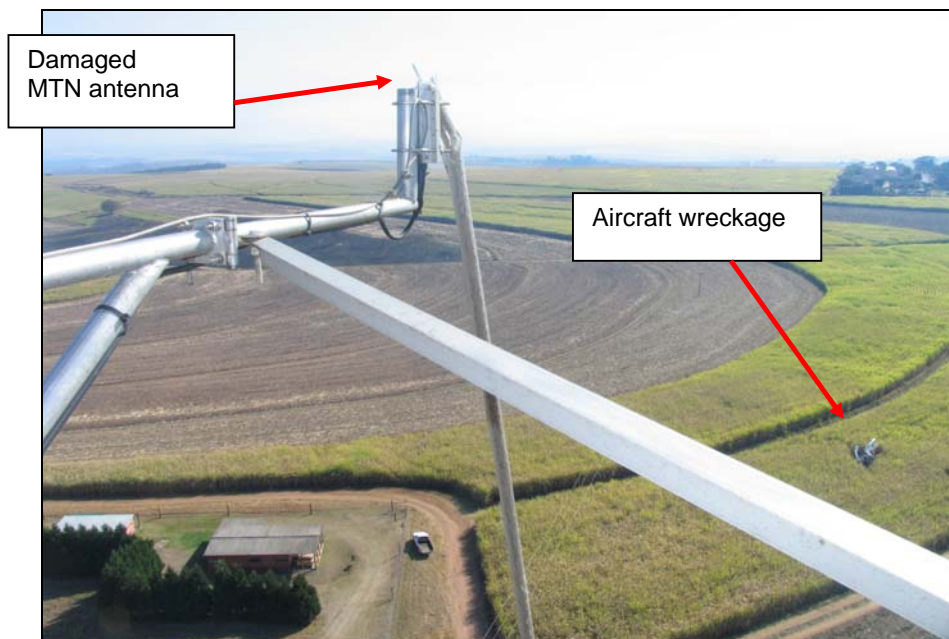


Figure 2. The impact damage to the MTN antenna.



Figure 3. The right wingtip and part of the outer wing.



Figure 4. The main wreckage in a sugarcane field.

1.2 Injuries to Persons

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

1.3 Damage to Aircraft

1.3.1 The aircraft was destroyed during the impact sequence

1.4 Other Damage

1.4.1 The omni antenna at the top of the MTN cellular mast was damaged.

1.4.2 A small area of sugarcane crops was destroyed.



Figure 5. The MTN cellular radio mast

1.5 Personnel Information

Nationality	South Africa	Gender	Male	Age	17
Licence Number	*****	Licence Type	NPL		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	4 May 2011				
Restrictions	Corrective lenses				
Previous Accidents	None				

Flying Experience

Total Hours	47,2
Total Past 90 Days	6,2
Total on Type Past 90 Days	6,2
Total Dual on Type	32,1
Total Solo on Type	15,1
Total on Type	47,2

1.6 Aircraft Information

Airframe

Type	Aeroprakt A-22L Foxbat	
Serial Number	214	
Manufacturer	Aeroprakt	
Date of Manufacture	2007	
Total Airframe Hours (at time of accident)	1 208,0	
Last Annual Inspection (Hours & Date)	1 200,0	1 July 2010
Hours since Last Annual Inspection	8,0	
Authority to Fly (Issue Date)	21 August 2009	
C of R (Issue Date) (Present Owner)		
Operating Categories	Private Flying & General Training Operations	

Engine

Type	Rotax 912 ULS
Serial Number	5649336
Hours since New	1 208
Hours since Overhaul	TBO not reached

Propeller

Type	Kiev Prop 263
Serial Number	263392
Hours since New	1 208
Hours since Overhaul	TBO not reached

1.6.1 The Aeroprakt A22 Foxbat:

1.6.1.1 This is a non-aerobatic, two-seater, ultra-light aircraft designed for recreational flying and primary training in daytime VFR flight from grass or hard runways. It is a metal airframe, high-wing, strut-braced monoplane with side-by-side seating and extensive cockpit glazing. The fixed tricycle landing gear has hydraulic brakes and a steerable nose-wheel linked to the rudder pedals.

1.6.1.2 The standard power unit is a 100 bhp, Rotax 912 ULS driving a ground-adjustable, 3-blade composite propeller. Two wing tanks give a total fuel capacity of 90 litres. The standard A22 aircraft is fitted with analogue engine instruments.

1.6.1.3 The equipment installed in the cockpit is as follows:

Airspeed indicator
Altimeter
Slip & skid ball

Magnetic compass
Vertical speed indicator
Manifold pressure gauge
Two fuel gauges
ICOM IC A200 radio & intercom
Garmin GTX 320A transponder
Engine information system – MGL Avionics Stratomaster Maxi Single
DYNON EFIS – D10
GPS Garmin 3 Pilot

1.7 Meteorological Information

1.7.1 The following meteorological conditions at the time and place of the accident were provided by the South African Weather Services:

1.7.1.1 WEATHER CONDITIONS IN THE VICINITY OF THE INCIDENT

There is no official observation in the Wartburg area, but reports from Pietermaritzburg and Greytown were considered. The official report from Pietermaritzburg by 1000Z shows the visibility at about 8 000 m in haze. The temperature and dew point at the time suggests dry conditions closer to the ground whilst light winds with a northerly component were measured at the time. Although the conditions were good over the area surrounding Wartburg on the day closer to the time of incident, there were clouds in the vicinity, but dry conditions indicate that the base of those clouds from ground level was significantly high.

FAGY 241000Z AUTO 02008KT //// // // 20/05 Q1024= FAGY 241100Z AUTO
34005KT //// // // 20/04 Q1023= FAPM 241000Z 05005KT 8000 HZ SKC 22/07
Q1024= FAPM 241100Z AUTO 03005KT //// // // 24/05 Q1022=

1.7.1.2 Time: 1000Z
Temperature: 22°C
Dew point: 07°C
Surface wind: 050 05knots
Cloud cover: NSC
Weather: Nil
Visibility: 8 000 km

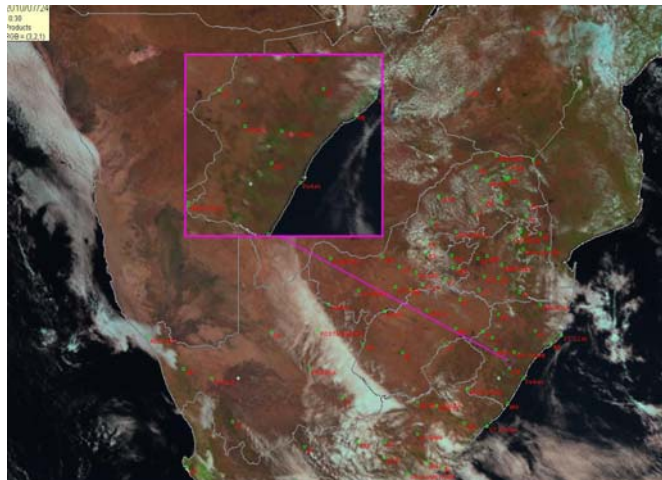


Figure 6. Satellite image valid for 1030Z 24 July 2010.

1.8 Aids to Navigation

1.8.1 The aircraft was fitted with the standard navigational instrumentation as per manufacturer's design. None was reported unserviceable prior to or during the flight.

1.9 Communications

1.9.1 The aircraft was equipped with a VHF transmitter ICOM IC-A200 (power emission frequency 7 A3E 118.000 – 136,975 Mhz). There were no reports of unserviceability prior to the accident.

1.9.2 There was no communication by the pilot or persons on the ground at the time of the accident.

1.10 Aerodrome Information

1.10.1 The accident did not occur at an aerodrome but on a sugarcane field near Wartburg, KwaZulu-Natal at the GPS position S 29° 26.185' E 030° 33.684'.

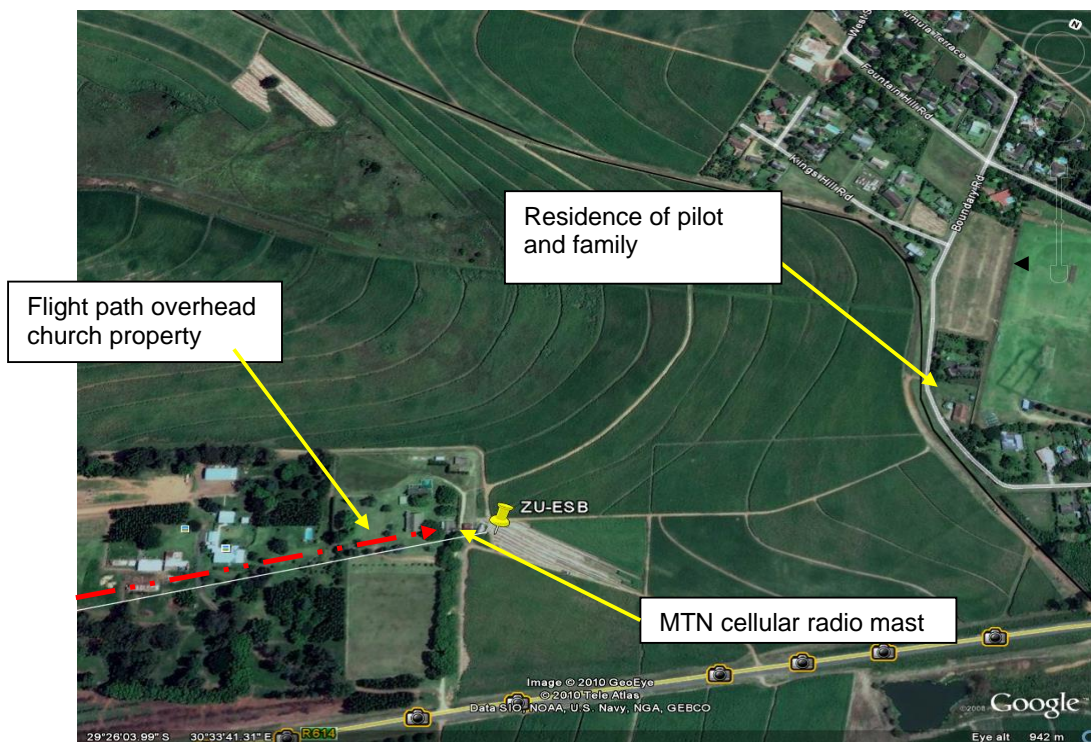


Figure 6. The aircraft's flight path and direction.

1.11 Flight Recorders

1.11.1 The aircraft was not fitted with a cockpit voice recorder or flight data recorder. Neither was required by regulation to be fitted to this type of aircraft.

1.12 Wreckage and Impact Information

1.12.1 The aircraft was flying overhead the Church property in the Wartburg area in a northerly direction when the right wing struck the 54 m-high cellular phone mast. The antenna on top of the cellular phone mast structure extended a further 5 m. The right wing tip broke off on impact, the wing folded backwards and the aircraft spiralled clockwise into a sugarcane field approximately 100 m away.

1.12.2 The aircraft was destroyed during the impact sequence.

1.13 Medical and Pathological Information

1.13.1 A post mortem examination was performed on the deceased pilot and passenger after the accident. The results of the post mortem report and toxicology tests were not available at the time the report was compiled. Should any of the results once received indicate that medical aspects may have affected the performance of the flight crew members, this will be considered as new evidence and the investigation re-opened.

1.14 Fire

1.14.1 There was no evidence of a pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 The pilot and passenger were properly secured with the three-point harnesses fitted to the aircraft, but due to the high impact forces and destruction of the cockpit area, the accident was considered non-survivable.

1.16 Tests and Research

1.16.1 Not considered necessary.

1.17 Organisational and Management Information

1.17.1 This was a private flight.

1.17.2 The last annual inspection was carried out on 1 July 2010 by an Approved Person (AP173) under the auspices of the Aero Club of South Africa.

1.17.4 The authority to fly for the aircraft was issued on 21 August 2009 with the expiry date being 12 October 2010.

1.18 Additional Information

1.18.1 The following information was obtained from cellular phone network operator. The construction was approved by the SACAA on 24 May 1999.

- i. The cellular phone mast site at Kingshill Church (Wartburg) is 1 140 m (3 740 ft) AMSL.
- ii. The freestanding mast height is 54 m.
- iii. The height of the antenna above the mast is 5 m.
- iv. The height to the top of the mast is thus 59 m.
- v. The height to the top of the mast is 1 199 m (3 933 ft) AMSL at the mast site.
- vi. Red aviation lights are located at the top of the mast (54 m above the ground)
- vii. Red aviation lights are also located midway on both sides of the mast 27 m above the ground.
- viii. It is certified that there is no landing strip / aerodrome within 8 km from the site.

1.19 Useful or Effective Investigation Techniques

1.19.1 None

2. ANALYSIS

- 2.1 While flying low above the ground and in a north easterly direction towards the sun, the pilot misjudged the distance and height of the cellular phone mast structure and collided with the antenna 54 m above ground level.
- 2.2 The pilot's attention was diverted by people on the ground and he failed to observe the MTN structure.

3. CONCLUSION

3.1 Findings

- 3.1.1 At the time of the accident, the pilot was in possession of a valid National Pilot's Licence (NPL) issued on 14 July 2010 and a valid aviation medical certificate with a corrective lenses restriction.
- 3.1.2 The certificate of registration was valid at the time of the accident.
- 3.1.3 The aircraft's authority to fly was valid at the time of the accident. The expiry date was 12 October 2010.
- 3.1.4 The pilot and passenger took off from Light Flight aerodrome on a local flight and whilst flying over the Church property in the Wartburg area, the aircraft collided with

the antenna on top of a base station mast.

3.1.5 The weather was reported to be fine at the time of the accident

3.2 Probable Cause/s

3.2.1 The aircraft was flying at a low attitude when the right wing collided with the antenna on top of base station mast. The aeroplane subsequently spiralled into a nearby sugarcane field.

3.2.2 Contributory factors:

- i. The pilot's attention was distracted whilst he was greeting someone on the ground.
- ii. Sunlight on the aircraft's windscreen from the direction in which he was flying in all likelihood degraded the pilot's awareness of the mast in close proximity ahead of him.

4. SAFETY RECOMMENDATIONS

4.1 None

5. APPENDICES

5.1 None

Report reviewed and amended by the Advisory Safety Panel 16 November 2010.

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