

PARAGLIDER ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8584	
Paraglider Registration	N/A	Date of Accident	16 November 2008		Time of Accident	1325Z
Type of Paraglider	Paraglider		Type of Operation		Private	
Pilot-in-command Licence Type		Paraglider Basic	Age	46	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	300,0		Hours on Type	200,0
Last point of departure		De Aar Aerodrome (Northern Cape)				
Next point of intended landing		Venterstad area (Northern Cape)				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
10 km south of Venterstad (GPS position: South 30° 51.580 East 025° 44.726)						
Meteorological Information		Surface wind: WSW/10 to 15 knots, temperature; 29 °C, cloud cover: nil				
Number of people on board	1 + 0	No. of people injured	0	No. of people killed	1	
Synopsis						
On 16 November 2008 at approximately 0853Z the pilot was launched at the De Aar aerodrome on a flight which formed part of the De Aar Pre XC Open World Series competition. When the pilot did not report back on the night of 16 November 2008, search and rescue parties were mobilized to search for the missing pilot. The missing pilot was found on the morning of 18 November 2008 approximately 10 km south of Venterstad, where he had hit the ground. The pilot was fatally injured during the accident.						
Probable cause						
The pilot probably encountered thermal turbulence during his approach for landing and experienced a deflation on the right-hand side of the canopy which resulted in a loss of control.						

Contributory cause/s

The pilot most probably suffered from fatigue, resulting in delayed reactions.

The Aircraft was too low for the pilot to deploy his emergency parachute.

IARC Date		Release Date	
-----------	--	--------------	--

PARAGLIDER ACCIDENT REPORT

Name of Owner/Operator : Wojciech Siudek
Manufacturer : Swing AG
Model : Mistral 4-26
Nationality : Polish
Place : 10 km south of Venterstad
Date : 16 November 2008
Time : 1525Z

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 produced without prejudice to the rights of the CAA, which are reserved.

1. FACTUAL INFORMATION

1.1 History of flight

- 1.1.1 On 16 November 2008 at approximately 0853Z the pilot was launched at the De Aar aerodrome on a flight routing via Colesberg to Venterstad. This flight was part of the De Aar Pre XC Open World Series which was held from 14-22 November 2008 in the De Aar area, Northern Cape.
- 1.1.2 After launching the pilot set out on an open distance flight in the direction of Colesberg. Just after passing Colesberg at about 1130Z, the pilot had radio contact with a fellow Polish pilot. This was the last radio contact with the pilot.
- 1.1.3 When the pilot did not check in that evening, efforts were made to contact him on his cell phone, which went unanswered. With Vodacom's assistance it was determined that the phone was within a 10 km radius of Venterstad.

- 1.1.4 Search and rescue efforts, including police and private aircraft, were launched very early on the morning of 17 November, and the search continued all day without success.
- 1.1.5 Early on the morning of 18 November the glider was located from the air on the farm Beeste Kraal and police were dispatched to the scene. The body of the pilot was found still strapped in his harness.

1.2 Injuries to persons

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

1.3 Damage to aircraft

- 1.3.1 There was no damage to the glider. It was inspected and compared with the manufacturer's data.

1.4 Other damage

- 1.4.1 No other damage was caused.

1.5 Personnel information

Nationality	Polish	Gender	Male	Age	46
Licence type	Paraglider				
Licence valid	Yes	Type endorsed	N/A		
Ratings	N/A				
Medical expiry date	N/A				
Restrictions	None				
Previous accidents	None				

1.5 Flying experience

Total hours	300,0
Total past 90 days	11,0
Total on type past 90 days	11,0
Total on type	200,0

1.5.1 The pilot's logbook could not be located, and the total hours and hours on type were estimated by a fellow Polish pilot. The totals for the past 90 days are the accumulated time the pilot spent flying in and around De Aar in the days preceding the accident.

1.5.2 For this competition, the European organisers did the validation of the foreign competitors' licences, with the local organisers double-checking the validation. The pilot had to apply to his local body to issue him with an FAI IPPI card. This is an internationally accepted card with the same period of validity as his licence. All foreign competitors were required to take out temporary membership of the local body, South African Hang Gliding and Paragliding Association (SAHPA). The temporary membership could not be issued without a valid licence and International Pilot Proficiency Information (IPPI) card.

1.6 Paraglider information

Type	Swing Mistral 4-26
Serial number	17-626-36645
Manufacturer	Swing AG
Year of manufacture	2007
Total airframe hours (at time of accident)	200,0
Operating categories	Paraglider

1.7 Meteorological information

- 1.7.1 Weather information was obtained from the SA Weather site. After the pilot had been reported missing, a weather report was also obtained from the gliding club at Gariep Dam. Weather observations were also obtained from other paragliding pilots who flew in the area at the approximate time of the accident.

Wind direction	WSW	Wind speed	10-15 kts	Visibility	>10 km
Temperature	30 °C	Cloud cover	None	Cloud base	None
Dew point	Unknown				

1.8 Aids to navigation

- 1.8.1 The pilot had two Garmin GPS units with him during the flight.

1.9 Communications

- 1.9.1 The pilot carried a shoulder-mounted Icom 2m radio (5 watt) during the flight. Last radio contact was made with a fellow Polish pilot at 1130Z on the day of the accident either on frequency 141.6 MHz or 141.625 MHz. Both these frequencies were used during the flight, and it could not be established on which frequency he made his last broadcast. Air band radios were not a requirement during this flight, hence the use of 2m low-output radios.

1.10 Aerodrome information

- 1.10.1 The accident did not occur at or near an aerodrome.

1.11 Flight recorders

- 1.11.1 The paraglider was not fitted with a cockpit voice recorder (CVR) or a flight data recorder (FDR), and neither was required by regulations to be fitted to this type of aircraft.

1.12 Wreckage and impact information

1.12.1 The pilot hit the ground at a substantial rate of descent and was dragged for 10 m before coming to rest.

1.13 Medical and pathological information

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

1.14 Fire

1.14.1 There was no pre- or post-impact fire.

1.15 Survival aspects

1.15.1 The accident was considered not survivable due to high impact forces on the body of the pilot during the sequence of the accident.

1.16 Tests and research

1.16.1 None.

1.17 Organisational and management information

1.17.1 This was a private flight (competing in the Pre XC Open World Series), with the pilot also being the owner of the paraglider.

1.18 Additional information

1.18.1 The De Aar Pre XC Open was a cross-country flying competition with the main aim of doing maximum distance during the seven days of the competition. The 'Pre' indicates that the competition was not part of the World Series, but was to determine if it would be included as part of the next year's series.

1.18.2 The helmet used by the pilot during the flight had no EN certification, as no EN standard (European standard) existed at the time of the accident. The helmet used by the pilot at the time was one of the most commonly used helmets at the time, a Charly Insider. After the adoption of the EN966 standard for paragliding helmets, this type of helmet passed without any modification.

1.18.3 The pilot was launched by using a payout winch system. The winch is mounted on a vehicle. Approximately 50 metres of line is laid out and hooked to the pilot's harness. The pilot is then pulled into the air by the moving vehicle. As the vehicle moves forward, the winch pays out line depending on the tension. This type of launch is used due to the low speed and tension on the line during the launch.

1.18.4 According to an expert appointed by the SACAA who conducted the investigation, evidence on the track log indicated the pilot was descending to land and there was a sudden change in direction to the right. During the change in direction, the speed of the paraglider dropped to 15 km/h, which is lower than the stall speed (22 km/h) of the paraglider. A sudden loss of altitude was also experienced during this phase of the flight. **(See Appendix A for the track log.)**

There is a power line that runs in a general north-south direction as well as one running in an east-west direction. Should the pilot turn right on purpose at the point indicated by the track log, he would not have enough room to land. The terrain closer to the power lines was not suitable for a landing due to a lot of shrubs in the area.

Impact marks indicate that the pilot was dragged on the ground after the first impact.

1.18.5 Deflation (Wikipedia)

“Since the shape of the wing (canopy) is formed by the moving air entering and

inflating the wing, in turbulent air, part or all of the wing can deflate (collapse). On modern recreational wings, such deflations will normally recover without pilot intervention. In the event of a severe deflation, correct pilot input will speed recovery from a deflation, but incorrect pilot input may slow the return of the glider to normal flight, so pilot training and practice in correct response to deflations is necessary” (See Fig. 1).



Figure 1 A deflated wing (canopy).

“Turbulence in all its forms is enemy number one for a flying paraglider wing. Because paraglider wings have no solid support, their shape (and ability to fly) can be ruined by an errant downdraft or the like. Therefore, turbulence or conditions conducive to turbulence generation are a primary factor in determining whether the weather is safe.”

Surge

After the deflation of a wing, it tends to slow down and fall slightly behind the pilot for an instant. It then reinflates and regains its optimal aerofoil shape. The wing is now flying fully again and due to the long line lengths between the wing and the pilot, the wing speeds up and overtakes the pilot (pendulum effect). This action is called a surge. A surge can be counteracted by applying brakes, which effectively gives the pilot time to swing in underneath the wing.

1.18.6 The pilot had several long flights in the De Aar area in the week before the accident, including a flight of over 100 km on the day before the accident. On the day of the

accident, the pilot was in the air for approximately four and a half hours. The pilot had more than adequate training and experience to fly in the conditions present on the day of the accident. His flying equipment, including the wing, helmet, harness and emergency reserve parachute, were of good quality and an inspection of the equipment did not reveal any abnormalities or defects.

1.18.7 The flying site for paraglider flights is graded according to the complexity of the launching and flying conditions. The grades used are student sites, basic sites and sport sites. A student site is suitable for student pilots and all other paraglider pilots. A basic site is suitable for all paraglider pilots except student pilots. A sport site is only suitable for sport-rated pilots. Sport-rated pilots need to hold a sport rating, which implies a higher level of proficiency and experience. The De Aar site was classified as a student site.

1.18.8 The reserve parachutes used on the paraglider are a fast opening type, but need about 100 m of height to ensure 100% proper opening. Below 100 m the chances of injury are high due to the pilot not having time to stabilise below the canopy.

1.18.9 Take-off time and time of the accident mentioned in this report were obtained from the pilot's track log. This information was downloaded from the pilot's variometer found at the scene after the accident.

1.19 Useful or effective investigation techniques

1.19.1 None.

2. ANALYSIS

2.1 The pilot's licence and FAI IPPI card indicated he was suitably qualified and proficient to participate in the De Aar Pre PX Open World Series, which was rated as a student site.

2.2 The pilot completed several long flights in the days preceding the day of the accident. On the day of the accident the pilot was in the air for approximately four and a half hours.

2.3 The paraglider and all safety gear were inspected after the accident. No

abnormalities or defects were found.

- 2.4 Evidence indicates there was a sudden change of direction to the right during the descent for landing. During this directional change there was also a sudden decrease in speed and height which was not normal during an approach for landing.
- 2.5 No evidence could be found indicating the pilot made an attempt to use his emergency parachute prior to his impact with the ground.
- 2.6 Although weather conditions on the day of the accident were reported to be fine and ideal for this type of flying, the possibility of turbulence and whirlwinds in the vicinity of the accident cannot be ruled out.

3. CONCLUSION

3.1 Findings

- 3.1.1 The pilot was the holder of the required paraglider licence and suitably qualified to participate in this type of competition.
- 3.1.2 The pilot had several long flights on the days preceding the accident, which could contribute to an increased level of fatigue.
- 3.1.2 The paraglider and the pilot's safety gear were found to be serviceable at the time of the accident.
- 3.1.3 A sudden deviation from a normal approach for landing was detected.
- 3.1.4 The pilot did not use his emergency parachute before the accident.
- 3.1.5 Turbulence or conditions conducive to turbulence cannot be ruled out.

3.2 Probable cause/s

The pilot probably encountered thermal turbulence during his approach for landing and experienced a deflation on the right-hand side of the canopy which resulted in a loss of control.

3.3 Contributory cause/s

The pilot most probably suffered from fatigue, resulting in delayed reactions.

The craft was too low for the pilot to deploy his emergency parachute.

4. SAFETY RECOMMENDATIONS

4.1 None.

5. APPENDICES

5.1 Appendix A Track log of the flight

Compiled by

Chris Williams

Date:

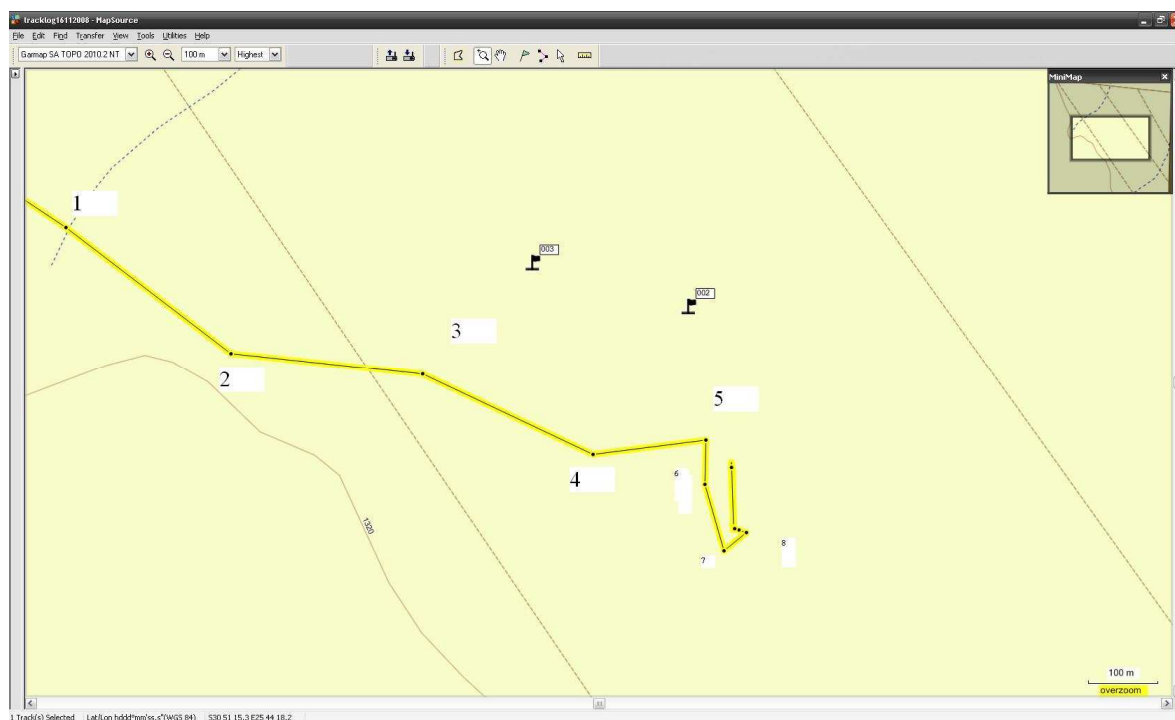
For: Director of Civil Aviation

Investigator-in-charge:

Date:

Co-investigator:

Date:



Track Log of the last part of the flight.

1088	1536 m	274 m	km/h	true	1	48m
			66	122ø		
			73	126ø		
1089	1496 m	306 m	km/h	true	2	40m
			69	96ø		
1090	1477 m	288 m	km/h	true	3	19m
			67	114ø		
1091	1470 m	280 m	km/h	true	4	7m
			41	83ø		
1092	1462 m	170 m	km/h	true	5	8m
			15	181ø		
1093	1458 m	63 m	km/h	true	6	6m
			24	163ø		
1094	1445 m	99 m	km/h	true	7	13m
			10	52ø		
1095	1430 m	42 m	km/h	true	8	15m
				286ø		
1096	1416 m	7 m	2 km/h	true		
			1.2	291ø		
1097	1414 m	5 m	km/h	true		
			0.8	270ø		
1098	1413 m	3 m	km/h	true		
			0.6	319ø		
1099	1412 m	2 m	km/h	true		

- Point 1 to 4 Normal glide – speed within range of glider – decent rate normal.
- Point 5 90 degree deviation of course and drop in speed. This is where I believe the deflation occurred on the right side, pilot at 1462m (ground at +- 1412-1416m) so pilot about 50m above the ground.
- Point 6 Glider speed very low, 15kph is less than the stall speed of the glider (22kph). This indicates that the glider was not in normal flying configuration. Pilot most probably trying to get glider to fly again.
- Point 7 Glider speed has increased but the pilot is losing more altitude. This is in my opinion the glider surging forward. Pilot still trying to recover glider
- Point 8 The Gliders forward speed is once again very low and the pilot lost +-15 meters. At this point the pilot has lost control of the glider and this is the point of impact.
- All points after this is the pilot being dragged on the ground.