

AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8770	
Aircraft Registration	ZU-KKW	Date of Accident	13 March 2010		Time of Accident	1525Z
Type of Aircraft	Quick R (microlight)		Type of Operation		Private	
Pilot-in-command Licence Type		Microlight	Age	58	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	719,0		Hours on Type	23,0
Last point of departure		Rietfontein private airstrip				
Next point of intended landing		Rietfontein private airstrip				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
Aeroden private airstrip, Magaliesberg, North West Province						
Meteorological Information		Surface wind: S/W at 20 kt; Visibility: CAVOK				
Number of people on board	1 + 1	No. of people injured	0	No. of people killed	0	
Synopsis						
<p>On 13 March 2010, the pilot, accompanied by a passenger, took off from Rietfontein private airstrip on a private flight with the intention of returning to Rietfontein. During the flight, the weather conditions became unfavourable, and the pilot elected to execute a precautionary landing at Aeroden private airstrip. Just before touchdown, wind shear caused the nose and right wing to drop suddenly, and on landing, the aircraft veered to the right of the airstrip.</p> <p>The pilot and passenger suffered no injuries.</p> <p>The aircraft sustained damage to the nose-wheel and right wing.</p>						
Probable Cause						
<p>Wind shear just prior to landing caused the nose and right wing of the microlight to dip. This resulted in loss of directional control on touchdown and the aircraft veered to the right of the airstrip.</p>						
IARC Date					Release Date	



AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : Robert Weightman
Manufacturer : P & M Aviation
Model : Quick R
Nationality : South African
Registration Marks : ZU-KKW
Place : Aeroden private airstrip
Date : 13 March 2010
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 given without prejudice to the rights of the CAA, which are reserved.

1. FACTUAL INFORMATION

1.1 History of Flight

1.1.1 On 13 March 2010, the pilot, accompanied by a passenger, took off from Rietfontein private airstrip on a private flight with the intention of returning to Rietfontein. During the flight, the weather conditions became unfavourable (the wind became strong) and the pilot elected to execute a precautionary landing at Aeroden private airstrip. According to the pilot, he experienced wind shear just before touchdown and this caused the nose wheel and right wing to drop unexpectedly. The nose wheel struck the ground, sustaining damage, and the aircraft then veered to the right of the runway, resulting in damage to the right wing.

1.2 Injuries to Persons

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

1.3 Damage to Aircraft

1.3.1 The nose gear and right wing were substantially damaged.

1.4 Other Damage

1.4.1 None

1.5 Personnel Information

Nationality	South African	Gender	Male	Age	58
Licence Number	*****	Licence Type	Microlight		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	31 January 2011				
Restrictions	Corrective lenses				
Previous Accidents	None				

Flying Experience

Total Hours	719
Total Past 90 Days	23
Total on Type Past 90 Days	23
Total on Type	23

1.6 Aircraft Information

Airframe

Type	Quick-R	
Serial Number	8486	
Manufacturer	P & M Aviation	
Year of Manufacture	2009	
Total Airframe Hours (at time of accident)	43,6	
Last Annual Inspection (Date & Hours)	22 September 2009	4,5
Hours since Last Annual Inspection	39,1	
Authority to fly (Issue Date)	22 September 2009	
C of R (Issue Date) (Present Owner)	25 August 2009	
Operating Categories	Private operation authority to fly	

Engine

Type	Rotax 912 S
Serial Number	5652804
Hours since New	43,6
Hours since Overhaul	TBO not yet reached

Propeller

Type	Warp drive
Serial Number	C17385
Hours since New	43,6
Hours since Overhaul	TBO not yet reached

1.7 Meteorological Information

1.7.1 Weather information as obtained from the pilot's questionnaire

Wind direction	S/W	Wind speed	20 kt	Visibility	CAVOK
Temperature	26°	Cloud cover	Nil	Cloud base	Nil
Dew point	Unknown				

1.8 Aids to Navigation

1.8.1 The aircraft was equipped with standard navigational equipment approved for the aircraft type. The equipment was serviceable.

1.9 Communications

1.9.1 The pilot was operating in an uncontrolled airspace and communicated his intentions on VHF frequency 124.8MHz. He did not report any defect or malfunction with the radio and it was thus considered to be serviceable.

1.10 Private airstrip Information

1.10.1 The accident occurred at a private airstrip, which had a grass surface.

1.11 Flight Recorders

1.11.1 The aircraft 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 microlight approached the airfield from the north in a landing configuration. Just before touchdown, wind shear caused the right wing and nose to drop. The nosewheel hit the ground hard, and the aircraft veered to the right of the runway.



Figure 1. The Quick R microlight.

1.13 Medical and Pathological Information

1.13.1 None

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 survived the accident. Both had been properly restrained with safety belts and harnesses. The accident occurred at a private airstrip without emergency rescue services.

1.16 Tests and Research

1.16.1 The following is extracted from *Meteorology for Pilots* (third edition):

The term wind shear supposes a change in wind speed or direction. However, low level wind shear is a severe hazard and more complex. It only applies in the most dangerous portion of a flight profile i.e along the final approach path, along the runway during approach, takeoff and during the initial climb-out. Wind shear can cause an aircraft to be displaced abruptly from the intended flight path such that substantial control action is necessary. Vertical up-draughts or down-draughts can also cause shear.

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 22 September 2009 and certified by an Approved Person in possession of valid accreditation issued by the Aero Club of South Africa.

1.18 Additional Information

1.18.1 None

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. ANALYSIS

- 2.1 The pilot took off from Rietfontein private airstrip on a private flight. Due to poor weather conditions during the flight, he chose to perform a precautionary landing at Aeroden private airstrip. Just before landing, he experienced wind shear, which caused the right wing to drop suddenly. As a result, the nosewheel struck the ground hard and the aircraft veered to the right of the airstrip before coming to rest.
- 2.2 According to records, the aircraft had been properly maintained.
- 2.3 Weather was a contributory factor to the accident – the pilot experienced wind shear prior to touchdown.

3. CONCLUSION

3.1 Findings

- 3.1.1 The pilot had a valid microlight licence and was properly rated at the time of the accident.
- 3.1.2 The pilot experienced wind shear before touchdown.
- 3.1.3 According to available records, the aircraft had been properly maintained.
- 3.1.4 The aircraft had a valid Authority to Fly which was due to expire on 21 September 2010.
- 3.1.4 Weather was a contributory factor to the accident.

3.2 Probable Cause/s

- 3.2.1 Wind shear just prior to landing caused the nose and right wing of the microlight to drop suddenly. The nosewheel struck the ground hard, directional control was lost and the aircraft veered to the right of the airstrip.

4. SAFETY RECOMMENDATIONS

- 4.1 None.

5. APPENDICES

- 5.1 None.

Report reviewed and amended by the Advisory Safety Panel 8 February 2011.

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