



## AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8347	
<b>Aircraft Registration</b>	ZS-CCX	<b>Date of Accident</b>	9 August 2007		<b>Time of Accident</b>	0845Z
<b>Type of Aircraft</b>	Piper PA20-150		<b>Type of Operation</b>	Training		
<b>Pilot-in-command Licence Type</b>	Airline Transport	<b>Age</b>	56	<b>Licence Valid</b>	Yes	
<b>Pilot-in-command Flying Experience</b>	Total Flying Hours	16 410.8		Hours on Type	48.1	
<b>Last Point of Departure</b>	Rand Aerodrome (FAGM), Gauteng					
<b>Next Point of Intended Landing</b>	Syferfontein (FASY) (formerly Baragwanath Aerodrome), Gauteng					
<b>Location of the Incident Site with Reference to Easily Defined Geographical Points (GPS readings if possible)</b>						
To the right of runway 31 at Syferfontein Aerodrome (S26°20'47.0" E027°46'31.0")						
<b>Meteorological Information</b>	Surface wind 310° at 5 kts, temperature 15°C, visibility >10 km, clouds nil					
<b>Number of People on Board</b>	2 + 0	<b>No. of People Injured</b>	0	<b>No. of People Killed</b>	0	
<b>Synopsis</b>						
<p>According to the instructor pilot, he and the student pilot departed from Rand Aerodrome on a training flight to Syferfontein and Panorama.</p> <p>The pilot stated they had completed about 10 to 12 take-offs and landings. The student did a 'wheeler' landing onto runway 31 at Syferfontein and was in the process of slowing down towards taxi speed. However, as the tail wheel was lowered onto the runway, the student lost directional control.</p> <p>The instructor pilot stated that both him and the student pilot attempted to regain control using the rudder and brakes but to no avail. Not even a burst of power was able to prevent the resulting ground loop to the right.</p> <p>As a result of the ground loop, the aircraft veered to the right-hand side of runway 31.</p>						
<b>Probable Cause</b>						
The student pilot lost directional control due to a lack of experience which was not corrected timeously by the instructor.						
IARC Date		Release Date				



## AIRCRAFT ACCIDENT REPORT

**Name of Owner/Operator** : Flying Circus Aviation  
**Manufacturer** : Piper  
**Model** : PA20-150  
**Nationality** : RSA  
**Registration Marks** : ZS-CCX  
**Place** : Syferfontein Aerodrome  
**Date** : 9 August 2007  
**Time** : 0845Z

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

## 1. FACTUAL INFORMATION

### 1.1 History of Flight

- 1.1.1 The aircraft took off from Rand Aerodrome (FAGM) to Syferfontein Aerodrome (FASY) on a training flight.
- 1.1.2 The instructor pilot stated that on 9 August 2007 at approximately 0845Z, they had completed about 10 to 12 landings and take-offs at Panorama and Syferfontein aerodromes, all of them at a very satisfactory standard. The student had just performed a 'wheeler' landing onto runway 31 at Syferfontein and was in the process of slowing down towards taxi speed. However, as the tail wheel was lowered onto the runway, directional control was lost. According to the instructor pilot, both he and the student pilot attempted to regain control using the rudder and brakes but to no avail. Not even a burst of power was able to prevent the resulting ground loop to the right.
- 1.1.3 During the ground loop, the left landing gear collapsed and as a result, the left wingtip, left aileron, left tip of the elevator and the propeller all struck the ground.
- 1.1.4 The aircraft came to rest on its nose on the right-hand side of runway 31.

## 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 aircraft sustained damage to the left landing gear, left wingtip, left aileron, left tip of the elevator and the propeller. The left-hand window was also cracked.

## 1.4 Other Damage

1.4.1 No other damage was observed.

## 1.5 Personnel Information

1.5.1 Pilot-in-command:

Nationality	South African	Gender	Male	Age	56
Licence Number	*****	Licence Type	Airline Transport		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Instructor, Instrument, Safety Pilot, Tug Pilot, Test Pilot				
Medical Expiry Date	30 November 2007				
Restrictions	Must wear corrective lenses and carry additional pair				
Previous Accidents	None				

1.5.2 Flying Experience:

Total Hours	16 410.8
Total Past 90 Days	109.7
Total on Type Past 90 Days	6.2
Total on Type	48.1

1.5.3 Student

Nationality	South African	Gender	Male	Age	37
Licence Number	*****	Licence Type	Private Pilot		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	30 June 2007				
Restrictions	None				
Previous Accidents	None				

#### 1.5.4 Flying Experience of the student

Total Hours	85.5
Total Past 90 Days	18.0
Total on Type Past 90 Days	4.0
Total on Type	4.0

### 1.6 Aircraft Information

#### 1.6.1 Airframe:

Type	PA20-150	
Serial No.	20-801	
Manufacturer	Piper	
Date of Manufacture	1952	
Total Airframe Hours (At Time of Incident)	4 155.2	
Last MPI (Date & Hours)	22 June 2007	4 150.2
Hours Since Last MPI	5	
C of A (Issue Date)	2 July 2007	
C of R (Issue Date) (Present Owner)	3 July 2007	
Operating Categories	Standard	

#### 1.6.2 Engine:

Type	Lycoming-0-320
Serial No.	L-6462-27
Hours Since New	5 029.2
Hours Since Overhaul	724.2 (TBO 2 000 hrs)

#### Propeller:

Type	Sensenich 74DM 6-0-65
Serial No.	A 46395
Hours Since New	4 150.2
Hours Since Overhaul	3.6

### 1.7.1 Meteorological Information

1.7.1 The following meteorological information was obtained from the pilot questionnaire:

Wind Direction	310°	Wind Speed	± 5 kts	Visibility	>10 km
Temperature	15°C	Cloud Cover	Nil	Cloud Base	N/a
Dew Point	N/a				

### 1.8 Aids to Navigation

1.8.1 The aircraft was equipped with standard navigational equipment as per the minimum equipment list approved by the regulator. There were no recorded defects to

navigational equipment prior to the flight.

## 1.9 Communications

1.9.1 The aircraft was equipped with standard communication equipment as per the minimum equipment list approved by the regulator. There were no recorded defects to communication equipment prior to the flight.

1.9.2 Syferfontein Aerodrome (FASY) is an unmanned airfield. The pilot broadcast his intentions on 122.6 MHz while operating at the FASY area.

## 1.10 Aerodrome Information

Aerodrome Location	3 nm west of Lanseria International Airport (FALA)
Aerodrome Co-ordinates	S26°20'47.0" E027°46'31.0"
Aerodrome Elevation	5 393 ft
Runway Designations	13/31
Runway Dimensions	1 000 m x 10 m
Runway Used	RWY 31
Runway Surface	Tar
Approach Facilities	None

## 1.11 Flight Recorders

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

## 1.12 Wreckage and Impact Information

1.12.1 The approach onto runway 31 was fine. After landing, as the speed of the aircraft was reduced to taxi speed and as the tail wheel was lowered onto the runway, directional control was lost and the aircraft made a ground loop to the right. The aircraft came to rest on the side of runway 31.

1.12.2 The aircraft came to rest on its nose.

## 1.13 Medical and Pathological Information

1.13.1 Neither the instructor pilot nor the student pilot sustained any injuries as a result of the incident.

1.13.2 The pilot was the holder of a valid medical certificate at the time of the accident.

## 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 accident was considered survivable as no damage was caused to the cockpit area and the safety harnesses were used by both pilots. The pilots both survived without any injuries.

## **1.16 Tests and Research**

1.16.1 The airframe and all flight controls were inspected. Apart from damage caused as a result of the accident, there was no previous damage to the airframe and flight controls.

1.16.2 The engine and all engine controls were inspected. Apart from damage caused by the accident, there was no previous damage to the engine and engine controls.

1.16.3 The propeller was inspected. The only damage found was damage caused by the accident.

## **1.17 Organisational and Management Information**

1.17.1 The aircraft was maintained by a CAA-approved aircraft maintenance organisation (AMO). The maintenance organisation was in possession of a valid AMO approval certificate.

1.17.2 This aircraft is privately operated by the two owners.

## **1.18 Additional Information**

1.18.1 This aircraft was involved in two similar accidents whereby directional control was lost: the first on 28 December 1993; the second on 16 November 2005.

## **1.19 Useful or Effective Investigation Techniques**

1.19.1 None.

## **2. ANALYSIS**

2.1 According to CAA records, the pilot was the holder of an Air Transport Pilot Licence (Aeroplane), which was valid at the time of the accident. The pilot had the required rating for the flight and was in possession of a valid medical certificate without any medical restrictions imposed.

2.2 The aircraft's logbooks were verified and all records indicated that the airframe and engine was properly maintained and all work carried out was properly certified. Maintenance documents indicated that the last mandatory periodic inspection (MPI) was done on 22 June 2007 at 4 150.2 hours by a CAA- AMO. The AMO was in possession of a valid AMO certificate.

- 2.3 The flight from Rand Aerodrome to Syferfontein was uneventful.
- 2.4 They completed about 10 to 12 landings at Panorama and Syferfontein aerodromes, all of them very satisfactorily.
- 2.5 During the next landing, the student pilot did a 'wheeler' landing, and as he decreased the aircraft speed to taxi speed and lowered the tail wheel onto the runway, directional control was lost.
- 2.6 Both pilots attempted to regain control using the rudder, brakes and a burst of power but to no avail.
- 2.7 The loss of directional control resulted in a ground loop to the right.
- 2.8 As a result of the ground loop, the aircraft veered of to the right-hand side of RWY 31.

### **3. CONCLUSION**

#### **3.1 Findings**

- 3.1.1 The instructor was properly licensed and rated according to current regulations.
- 3.1.2 The pilot was conducting training when the accident occurred.
- 3.1.3 The accident occurred during daylight and in good weather conditions, thus the weather did not contribute to this accident.
- 3.1.4 According to available records, the aircraft was properly maintained.
- 3.1.5 The airframe and flight controls were found to have had no defect prior to the accident and all damage observed was as a result of the accident sequence.
- 3.1.6 The engine and engine controls were found to have had no defect prior to the accident and all damage observed was as a result of the accident sequence.
- 3.1.7 Discrepancies were found between the hours submitted on the MPI report and the hours submitted on the owner/operator questionnaire. These discrepancies were rectified by the AMO.
- 3.1.8 The maintenance facility had a valid AMO certificate.

#### **3.2 Probable Cause/s**

- 3.2.1 The student pilot lost directional control due to a lack of experience which was not corrected timeously by the instructor.

#### **3.3 Contributing Factors**

- 3.3.1 If the number of landings made before the accident are taken into consideration, fatigue could have had an influence on this accident.

#### **4. SAFETY RECOMMENDATIONS**

4.1.1 None.

#### **5. APPENDICES**

5.1.1 None.

Report reviewed and amended by the Advisory Safety Panel on 18 May 2010  
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