



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8230	
Aircraft Registration	ZS-LVX	Date of Accident	03 January 2007		Time of Accident	1322Z
Type of Aircraft	Piper PA28-181		Type of Operation	Private		
Pilot-in-command Licence Type		Commercial	Age	31	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	811.2		Hours on Type	245.6
Last point of departure		Lady Frere (Private Aerodrome)				
Next point of intended landing		East London (FAEL) Aerodrome				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
During landing on Runway 11 at East London Aerodrome (FAEL)						
Meteorological Information		Surface Wind: 090° @ 6kts. Temperature: 27°C. Visibility: 10km. Cloud base: SCT @ 5000feet.				
Number of people on board	2 + 0	No. of people injured	0	No. of people killed	0	
Synopsis						
<p>The aircraft drifted to the left of the gravel runway on take-off roll and at about rotation, the left main landing gear made contact with an anthill, causing the wheel axle and wheel assembly (lower strut) to separate from the aircraft. The crew continued with the flight to their destination. On landing and during the touch down the left hand wing settled on the runway. The aircraft came to a halt on the left hand side of Runway 11. The pilot discovered that the left gear oleo piston and the wheel assembly were missing. It was later recovered at the departure point by the locals.</p> <p>Both crew sustained no injuries.</p> <p>The aircraft sustained damage to the left-hand undercarriage, left-hand wing and the tail plane.</p>						
Probable Cause						
<p>The left main wheel made contact with an anthill, causing the left main landing gear lower strut to be separated from the aircraft</p>						
IARC Date				Release Date		

AIRCRAFT ACCIDENT REPORT

Name of Owner/Operator : Border Aviation
Manufacturer : Piper
Model : PA-28-181
Nationality : South African
Registration Marks : ZS-LVX
Place : East London Aerodrome
Date : 03 January 2007
Time : 1332Z

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 During the take-off roll at Lady Frere, whilst using an open field as an airstrip, and at approximately 300m from the threshold, the aircraft started to veer to the left of the airstrip. The aircraft impacted with an anthill which was approximately 0.5m from the edge of the open field and it proceeded to East London Aerodrome (Destination Aerodrome). As a result the left-hand main gear (lower strut) separated from the aircraft. The aircraft continued to the destination aerodrome without any event. During the landing at the destination aerodrome the left-hand wing settled on the runway before the aircraft came to a halt.

1.2 Injuries to Persons

Injuries	Pilot	Crew	Pass.	Other
Fatal	-	-	-	-
Serious	-	-	-	-
Minor	-	-	-	-
None	2	-	-	-

1.3 Damage to Aircraft

1.3.1 The aircraft sustained damage to the left-hand gear, left-hand wing and the tail plane.

1.4 Other Damage

1.4.1 Minor scratch mark on the runway.

Photo1.



Photo 1 indicates the scratch marks on the runway

1.5 Personnel Information

Nationality	RSA	Gender	Male	Age	31
Licence Number	*****	Licence Type	Commercial		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	Night, Instrument				
Medical Expiry Date	30 April 2007				
Restrictions	None				
Previous Accidents	None				

Flying Experience:

Total Hours	811.2
Total Past 90 Days	18.8
Total on Type Past 90 Days	5.1
Total on Type	245.6

1.6 Aircraft Information

Airframe :

Type	PA-28-181	
Serial Number	28-7790064	
Manufacturer	Piper	
Year of Manufacture	1979	
Total Airframe Hours (At time of Accident)	6535.62	
Last MPI (Date & Hours)	15 May 2006	6442.68
Hours since Last MPI	92.94	
C of A (Issue Date)	24 May 2006	
C of R (Issue Date) (Present owner)	09 February 1988	
Operating Categories	Standard	

Engine :

Type	Lycoming O-360-A4M
Serial Number	L-22265-36A
Hours since New	6442.68
Hours since Overhaul	59.38

Propeller :

Type	Sensenich 76EM855-0-60
Serial Number	38554K
Hours since New	92.94
Hours since Overhaul	TBO not yet reached

1.7 Meteorological Information

1.7.1 Weather information as obtained from the pilot's questionnaires:

Wind direction	Light and Variable	Wind speed	Light	Visibility	10000m
Temperature	26°C	Cloud cover	<2/8	Cloud base	Nil
Dew point	Unknown				

1.8 Aids to Navigation

1.8.1 The aircraft was fitted with standard navigational equipment certified for this type and none were reported unserviceable prior or during the flight.

1.9 Communications

1.9.1 The pilot was communicating to the tower on the frequency of 118.3 MHz.

1.10 Aerodrome Information

1.10.1 The pilot took off from an airstrip in an open field at Lady Frere. This was not a licenced airstrip

Photo 2.



Photo 2 indicates the airstrip used for the takeoff.

Photo 3.



Photo 3 indicates an anthill which was presumably struck by the left-hand gear.

1.10.2 The information below indicates the destination aerodrome.

Aerodrome Location	East London	
Aerodrome Co-ordinates	S33 02 06.0 E027 49 16.0	
Aerodrome Elevation	435 feet	
Runway Designations	11/29	09/24
Runway Dimensions	1939m X 46m	1585m X 46m
Runway Used	11	
Runway Surface	Asphalt	
Approach Facilities	PAPI	

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 approach was normal and on touch-down, the left hand wing settled on the runway. The aircraft skidded for approximately 15m before it came to a halt on the left-hand side of runway 11.

1.12.2 During the landing at the destination aerodrome, the aircraft touched down and the left-hand wing, left-hand main landing gear, oleo cylinder and torque link made contact with the runway surface before the aircraft came to a halt. As a result, the left-hand wing and the elevator contacted the runway surface.

Photo 4.



Photo 4 indicates the aircraft as it came to halt on the left-hand side of runway11.

1.13 Medical and Pathological Information

1.13.1 The pilot and the crew sustained no injuries as a result 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 there was no damage to the cabin area and both crews were properly restrained with the safety harness.

1.16 Tests and Research

1.16.1 The site inspection by the pilot revealed a failed landing torque link attachment. The piston had separated from the landing gear cylinder at the securing point and at the lower torque link attachment.

1.16.2 The left-hand landing gear piston and torque link attachment failed on impact with an anthill.

1.16.3 The left-hand landing gear piston and wheel axle assembly were recovered from the locals at the departure point. No tests were carried out on the recovered components.

Photo 5.



Photo 5 indicates the left-hand landing gear.

PIPER PARTS CATALOG

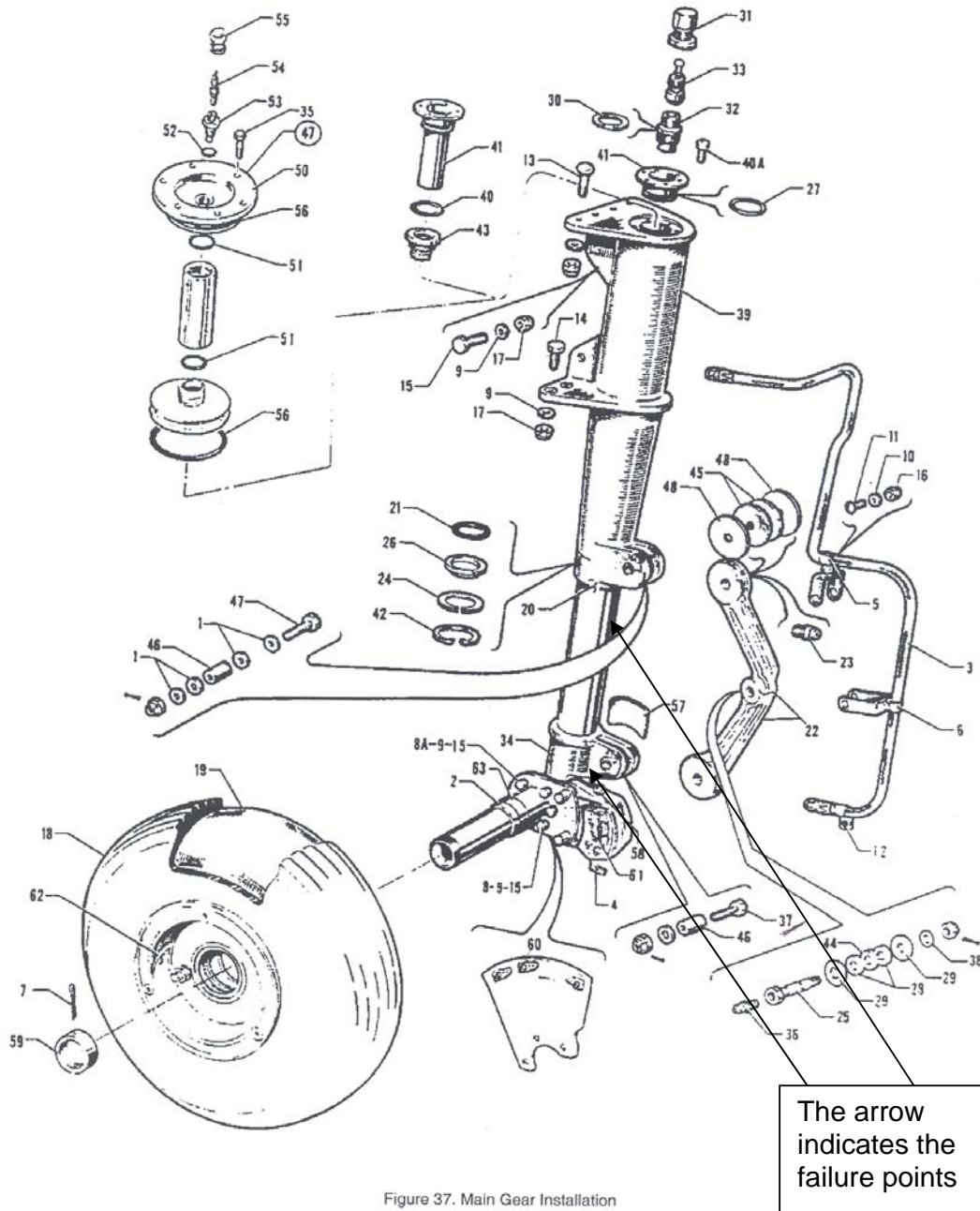


Figure 37. Main Gear Installation

REVISED: MAY 1980

2H16

PA-28-180
PA-28-200

Photo 6 indicates the schematic drawing of the main landing gear.

1.17 Organisational and Management Information

1.17.1 This was a private flight.

1.17.2 The Airworthiness department had conducted an audit on AMO 222 which was the AMO responsible for the maintenance of this aircraft, on 31 January 2005 and on 22 March 2006. The audit revealed no findings. The AMO had a valid approval certificate which was issued on 01 March 2006 with an expiry date of 14 April 2007.

1.18 Additional Information

1.18.1 Nil

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. ANALYSIS

2.1 The pilot was properly rated to conduct the flight.

2.2 During take-off at Lady Frere, the aircraft veered to the left of the airfield at approximately 300m from the threshold. The aircraft impacted with an anthill which was situated to the left of the field. As a result, the left-hand main landing gear separated from the aircraft. The left oleo piston and wheel assembly separated at the torque link lower attachment and piston to cylinder attachment.

2.3 According to available records, the aircraft was maintained as per the requirements of the applicable Civil Aviation Regulations

2.4 Though the pilots state that they did not feel the impact with an anthill, it is considered that impact with the anthill caused the damage to the left-hand main gear.

3. CONCLUSION

3.1 Findings

3.1.1 The pilot had a valid pilot's licence and was properly rated at the time of the accident.

3.1.2 The aircraft was properly maintained.

3.1.3 Weather was not a contributory factor to the accident.

3.1.4 The left-hand main wheel impacted with an anthill and the lower strut oleo separated.

3.1.5 The crew continued the flight to the destination aerodrome.

3.1.6 The aircraft approach was normal and on touch-down, the left wing settled on the runway.

3.2 Probable Cause/s

3.2.1 During take-off the left main wheel made contact with an anthill, causing the left main landing gear lower strut to separate from the aircraft.

4. SAFETY RECOMMENDATIONS

4.1 It is recommended that the Commissioner should urge and encourage owners of unlicensed airstrips to register their strips and to ensure that strips are maintained to an acceptable safe operational standard.

4.2 It is recommended that the SACAA publish an article in the Safety Link to stress the importance to pilots to verify the servicability and adequacy of an airstrip before landing or taking off from such a strip.

5. APPENDICES

5.1 None.

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Report reviewed and amended by Office of the EM:AIID
29 April 2009