



UNION OF SOUTH AFRICA.  
DEPARTMENT OF TRANSPORT.  
DIVISION OF CIVIL AVIATION.

**PROCEEDINGS OF BOARD OF INQUIRY OR INVESTIGATION**  
**OPENED ON** 17 August 1953

at Pretoria to inquire into a Flying Accident on 20 th June 1953  
involving Piper PA22 Aircraft ZS-DHA at van Rhynsdorp Airfield, Cape Province  
Aircraft owned by Messrs. Johannesburg Light Plane Club (Pty) Ltd.  
Terms of Reference \_\_\_\_\_

COMPOSITION OF THE BOARD (OR NAME OF INVESTIGATING OFFICER).

	Name.	Appointment.
Chairman.....	<u>Col. R.H. Preller</u>	
Members.....	<u>Dr. J.C.P. Froneman</u>	
In attendance.....	<u>Mr. F.A. Meltzer.</u>	

LIST OF WITNESSES.

Name.	Address.	Occupation.
<u>D. J. Struwig</u>	<u>Pretoria</u>	<u>Senior Inspector of Flying.</u>
<u>R.M. Miles</u>	<u>Pretoria</u>	<u>Inspector of Aircraft</u>
<u>J.F. Grobbelaar</u>	<u>Klerksdorp</u>	<u>Fitter.</u>
<u>P.W.A. Botha</u>	<u>Springs</u>	<u>Rigger.</u>
<u>J.H. Wessels</u>	<u>Pretoria</u>	<u>Senior Clerk.</u>
<u>G.D. v. Schalkwyk</u>	<u>Pretoria</u>	<u>Firemaster, Pretoria Fire Brigade</u>
<u>P.L. Wessels.</u>	<u>van Rhynsdorp</u>	<u>School teacher.</u>
<u>F. J. Brand</u>	<u>do.</u>	<u>Warder.</u>
<u>W.D. Gardyne</u>	<u>Johannesburg</u>	<u>Engineer</u>
<u>G.D. Gray</u>	<u>do.</u>	<u>Manager, J.L.P.C.</u>

Mr. S.W.L. de Villiers, Departmental Legal Officer, Dept. of Transport, appeared to lead  
FINDINGS OF THE BOARD OR INVESTIGATING OFFICER. the evidence.

1. Description of Aircraft.

Type and Mark.	Dual or Single Control.	Damage to Airframe.	Engine(s) Type and Series.	Engine Number(s).	Damage to Engine(s).
<u>Piper Model</u>	<u>Dual</u>	<u>Write-off</u>	<u>Lycoming</u>	<u>Ser.No.</u>	<u>Write-off</u>
<u>PA22 Tripacer</u>			<u>Model O-290-</u>	<u>4451-21</u>	
<u>Ser.No. 22-767</u>			<u>D2.</u>		

2. Description of Occupants.

Name.	Address.	Duty.	Where Seated.	Extent Injured.
<u>I.M. Rudolph</u>	<u>Klerksdorp</u>	<u>Pilot</u>	<u>Left front</u>	<u>Fatal</u>
<u>H.J. v. Zyl</u>	<u>v. Rhynsdorp</u>	<u>Passenger</u>	<u>Right front</u>	<u>Extensive</u>
<u>H. J. v. Zyl</u>	<u>"</u>	<u>"</u>	<u>Right rear</u>	<u>Minor</u>
<u>A.S. v. Zyl</u>	<u>"</u>	<u>"</u>	<u>X Middle rear</u>	<u>Fatal</u>
<u>F. J. Brand</u>	<u>"</u>	<u>"</u>	<u>Left rear</u>	<u>Minor</u>



We (X) have/have not visited the scene of the accident before/after aircraft was/were removed and have found the following material facts:—

(N.B.—If the scene of the accident was not visited nor the wreckage examined, the material facts contained in the report of the investigator of the accident should be extracted and written below.)

1. The aeroplane Certificate of Airworthiness was valid and it was registered in categories in (a) Public Transport Operation, (c) Aerial work operation, (d) Industrial aid operation, (e) Flying training operation and (f) Private operation.
2. The pilot held Private Pilot's Licence No. 739(P) which was valid up to 6th May, 1954.
3. The aircraft was not overloaded neither were the permissible limits of centre of gravity travel exceeded.
4. There was sufficient fuel for the flight and there was no fire in the air; the fire started after the wreckage came to rest.
5. The aircraft was airworthy at the time of the first impact with the ground and all requirements of the approved maintenance had been met.
6. At the time of the take-off from van Rhynsdorp airfield the weather conditions there were good and suited visual flight rules.
7. Wheel treads on the ground revealed that the aircraft struck the ground initially with all three wheels at the intersection of the two runways while performing an extremely low dive over the airfield, after which the aircraft again became airborne and continued in the original direction of flight. Fourteen paces from this first point of impact the aircraft struck a coloured man sitting on the ground holding a bicycle. The coloured man <sup>was</sup> killed instantaneously. The bicycle was wrecked and its wreckage strewn over the N.N.W. S.S.E. runway following the direction of flight.

The aircraft then completed a partial righthand circuit and an attempt was made to land on runway N.N.W. S.S.E. from the S.S.E. threshold.

Investigation and examination of the wreckage revealed that the aircraft struck the ground in a slight nose and port wing down attitude, the port wing being the first part to touch the ground. The engine was under power. The port wing was telescoped inwards and backwards, the propeller and nosewheel broke away from the aircraft. All parts of the aeroplane were found at or near the wreckage and none had fallen away in flight. All seat belts were fastened and the flaps were up at the time of impact. The dual control rudders were fitted and operating at the time of impact. The righthand control wheel had been previously removed. After impact the wreckage caught fire and the cabin

and starboard wing were badly burnt. The port wing and empennage were untouched by fire. The port wing fuel tank contained some fuel.

- CONCLUSIONS AND RECOMMENDATIONS.—Under this heading the following should always be included:—
- (a) Brief description of accident and attendant circumstances.
  - (b) Diagnoses of cause or causes, including all contributory factors.
  - (c) Recommendations.
  - (d) Statement as to whether accident was due to negligence or irregularity or disregard of regulations on the part of any person.
  - (e) Statement as to which person or persons are considered to be directly or indirectly to blame.
  - (f) Indication of credibility or otherwise of witnesses.

(a) Brief description of accident and attendant circumstances.

On 19 June 1953 a private licensed pilot and two passengers took-off from Baragwanath and landed at Van Rhynsdorp Airfield. Shortly after landing the aircraft again took-off with two different passengers and flew to a nearby mine. It finally landed again at Van Rhynsdorp.

On 20 June 1953 the aircraft took-off from Van Rhynsdorp airfield with three passengers and dropped pamphlets over Vredendal and Klaver and again landed at Van Rhynsdorp. These pamphlets advertised proposed joyriding on that day at Van Rhynsdorp. During the course of the day considerable joyriding was carried out for hire and reward. On several occasions the pilot dived low over the heads of the people assembled on the airfield. At approximately 1700 hours the aircraft again took off with four passengers and flew around locally. The pilot again dived over the airfield and came so low that the wheels contacted the ground. The aircraft immediately became airborne again, but struck a coloured person as it rose into the air. It completed a half circuit to the right around the field and the pilot then obviously attempted to execute a landing on the S.W. corner of the airfield. The aircraft crashed on landing and caught fire.

(b) Diagnoses of cause or causes, including all contributory factors.

For the purpose of diagnosing the causes and contributory factors the Board considers that the accident should be sub-divided into two separate stages:

(i) 1st Stage.

1. Primary cause of accident.

In violation of Air Navigation Regulations 1950 the pilot deliberately flew extremely low over a crowd of people assembled in close proximity of the runways.

2. Secondary cause.

The aircraft struck the ground on all three wheels at considerable speed, left the ground again and approximately 14 yds, further on, the undercarriage of the aircraft struck a coloured person who was sitting holding a bicycle upright.

The Board considers that there is no reason to believe that, apart from

structural damage to the landing gear, this accident caused any further damage to the airframe or engine installation or propeller which might subsequently have affected the flight characteristics and handling of the aircraft whilst airborne.

(b) 2nd Stage.

1. Primary cause of accident.

Apparently whilst still under mental strain resulting from the first stage of the accident the pilot decided to land as quickly as possible on the nearest available runway. He made a half circuit to the right around the airfield but appears to have misjudged his line of approach, came in downwind and failed to lower the landing flaps in preparation for a landing. These factors taken together caused him to stall the aircraft twenty feet above the ground.

2. Secondary cause of accident.

The left wing of the aircraft dropped in the stall and the aircraft struck the ground on the left wing tip and the nose.

Contributory factors.

The fact that the pilot had flown the entire previous day and again approximately seven and a half hours of concentrated landings and take-offs on the day of the accident, coupled with the fact that he had had no solid food at midday, is regarded by the Board as a serious contributory factor which resulted in mental and physical fatigue which in turn caused the pilot to misjudge heights and distances.

(c) Recommendations.

1. The Board endorses the action taken by the Department of Transport in requesting Police authorities to establish that flight crew members and aircraft are properly certificated and licensed when conducting operations for hire and reward.

2. Fire extinguishers: There are indications that the fire extinguisher did not function correctly in this case. Even if it had functioned correctly, it could not have extinguished the fire. The Board recommends, however, that the Division of Civil Aviation investigate probable methods of ascertaining serviceability and maintenance of fire extinguishers carried in aircraft.

3. The Board recommends that the Division of Civil Aviation investigate the possibility of fitting shoulder type safety harness to all light aircraft on the Union register.

4. The Board recommends that the Department of Transport request the Police

CSA

CIF

authorities to take appropriate action in all cases of low flying.

(d) Statement as to whether accident was due to negligence or irregularity or disregard of regulations on the part of any person.

The accident was due to disregard of the Air Navigation Regulations and negligence on the part of the pilot.

(e) Statement as to which person or persons are considered to be directly or indirectly to blame.

The Board is of the opinion that the pilot is directly to blame for the accident.

(f) Indication of credibility or otherwise of witnesses:

There is no reason to doubt the credibility of any of the witnesses.

Lined area for handwritten notes or remarks.

(Signed) W. L. ... Chairman.  
[Signature] Member.  
[Signature] Member.

Date 5. October 1952.

REMARKS BY THE COMMISSIONER FOR CIVIL AVIATION.

Date \_\_\_\_\_

MINISTER'S DIRECTIONS:

Date \_\_\_\_\_