

CAV/ACC/4/69

EAST AFRICAN COMMUNITY,
ACCIDENT INVESTIGATION BRANCH,
P.O. BOX 30163,
NAIROBI.

AUGUST, 1969

The Secretary General,

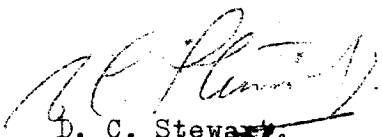
Sir,

I have the honour to submit my report into the circumstances of the accident to Piper PA 28R-180 Registration 5Y-AGS which occurred on the 20th June, 1969 at Sale Airstrip, Tanzania.

I have the honour to be,

Sir,

Your obedient servant,


D. C. Stewart.

CHIEF INSPECTOR OF ACCIDENTS

DCS/NAM

CAV/ACC/11/69

ACCIDENT INVESTIGATION BRANCH

CIVIL AIRCRAFT ACCIDENT

Report on the accident to Piper
PA 28R-180 Registration
Number 5Y-AGS which occurred
on the 20th June, 1969 at
Sale Airstrip, Tanzania.

EAST AFRICAN COMMUNITY

ACCIDENT REPORT
ACCIDENT INVESTIGATION BRANCH

Civil Aircraft Accident Report No. CAV/ACC/11/69

AIRCRAFT: Piper PA 28R-180 Registration 5Y-AGS.
ENGINE: Lycoming 10-360 B1E
OWNER & OPERATOR: Wilken Aviation, Ltd. P. O. Box 5480, Nairobi.
PILOT: R. Armstrong - Killed.
PLACE OF ACCIDENT: Sale Airstrip, Tanzania.
DATE & TIME: 20th June, 1969.

All times in this report are G.M.T.

S U M M A R Y

The aircraft was making a flight from Tabora to Wilson Airport, Nairobi. Just before 11.30 hours it was seen to pass over Sale at a normal altitude. About five minutes later the aircraft returned, carried out a circuit of the airstrip and attempted to land.

The aircraft did not touch down on the strip until the further threshold where it bounced along the grass for approximately 30 yards and then took off again. It was seen to assume a very tail down attitude, when it struck a tall tree with its port wing and thereafter plunged into the ground where it caught fire immediately.

1. INVESTIGATION

1.1. History of the Flight

The aircraft had arrived at Tabora, Tanzania, on the morning of the 20th June, 1969, flown by Mr. R. Armstrong. Refuelling was carried out and a flight plan submitted for a direct flight to Wilson Aerodrome, Nairobi. The aircraft subsequently took off at 09.19 hours. VHF R/T Contact was made with Air Traffic Control at Tabora on take off and at 09.22 hours with Area Control Centre, Nairobi after which there was no further communication.

Previously the pilot had flown from Wilson Airport, Nairobi, on Wednesday, 18th June, 1969, and had followed a route to Arusha, Tanzania, where he had night stopped, flying on the following day to Tabora where he dropped off one passenger. Then on to Mpanda where he contacted a hunting safari at a camp near Lake Kitabe and carried out a game reconnaissance with three other people for approximately one hour and a quarter. Having night stopped at the camp he proceeded to Tabora, on the morning of Friday, 20th June, for the purpose of refuelling the aircraft.

1.2. Injuries to persons

Injuries	Crew	Passengers	Others
Fatal	1	-	-
Non-Fatal	-	-	-
Others	-	-	-

1.3. Damage to aircraft

Destroyed.

1.4. Other Damage

Nil

1.5. Crew Information

Robin Michael ARMSTRONG, born on 23rd October 1941 was the holder of C.P.L. No. 950 issued on 16th January, 1969, on the strength of a U.S.A. C.P.L. No. 1894434 dated 24th August, 1968, and valid until 20th October, 1969, for Cessna 150 under Part 1. Mr. Armstrong also held E.A. Flight R/T Operator's licence No. 1588 dated 30th May, 1968, and valid in line with his C.P.L.

When Mr. Armstrong's log book was last checked on 9th January, 1969, it showed a total flying experience of 202 hours and 05 minutes as follows:

<u>Type</u>	<u>Day</u>		<u>Night</u>	
	<u>Dual</u>	<u>Solo</u>	<u>Dual</u>	<u>Solo</u>
C.150	42.45	84.40	3.50	5.25
C.172	1.00	2.30	-	-
C.182	2.05	-	-	-
C.206	0.30	-	-	-
PA 28	38.05	20.35	-	-
DC.3	0.40	-	-	-

1.6. Aircraft Information

Piper PA 28R-180, Constructor's Serial No 28-30284, land monoplane, powered by a Lycoming 10-360 B1E engine, was constructed by the Piper Aircraft Corporation of Vero Beach, Florida, U.S.A. in 1967. This Aircraft arrived in Kenya in possession of F.A.A. Export Certificate of Airworthiness No. E.84420 dated December 8th 1967, and validated by Temporary Certificate of Airworthiness No. 490 dated 31st January, 1968. Normal E.A. C. of A No.490 was issued on 27th February, 1968 to 16th February, 1969, and renewed on 3rd April, 1969 to 2nd April, 1970.

The aircraft was registered on the 31st January, 1968 in the name of Messrs Wilken Aviation Ltd., P.O. Box 4580, Nairobi, and has not transferred ownership to date.

The aircraft had flown a total of approximately 424 hours and had been maintained in accordance with an approved maintenance schedule.

At the time of the accident there was a current Certificate of Maintenance and a valid Certificate of Airworthiness in the Public Transport Category.

The weight and centre of gravity of the aircraft are calculated to have been within the authorised limits bearing in mind there was only the pilot on board and his personal baggage.

1.7. Meteorological Information

There are no meteorological facilities available in the area of Sale. From witnesses' statements the weather appeared to have been fine and clear.

1.8. Aids to Navigation

None available.

1.9. Communications

The aircraft was fitted with VHF RT equipment. There are no radio facilities at Sale. There was no communication between the aircraft and Area Control Centre in Nairobi immediately prior to the accident.

1.10. Aerodrome and Ground Facilities

The airstrip at Sale is a narrow and undulating strip cut out of the bush. The surface is earth and comparatively rough. It is approximately 500 yards long and has an up-hill gradient towards the North of approximately 3 per cent. The approach from the South is good, whilst the approach from the North is poor through the hills.

1.11. Flight Recorders

No recorder was fitted, nor was one required to be fitted.

1.12. Wreckage

Initial impact was in a nose-down, left wing low attitude, and the aircraft came to rest facing the way from which it had come, the wreckage being contained within a very small area, and except for the outer half of the port main plane, no portion of the aircraft had totally separated from the main structure.

The outer half of the port wing was in the top of a tree, approximately 30/40 feet above the ground at a position approximately 80 yards from the main wreckage. All flying control surfaces and cables were intact, except for impact damage and burning, and there appeared to be no evidence of any pre-crash structure failure. The flaps appeared to be in a fully down position and the under-carriage was also extended.

The engine did not appear to have been under power at impact, although power must have been used in the attempt to take off and go round again.

1.13. Fire

Fire broke out on impact and burnt fiercely. A number of local inhabitants who ran to the scene were unable to get close to the burning wreckage and when this subsided there was very little left of the aircraft structure and components.

1.14. Survival Aspects

The fact that the aircraft burst into flames on impact made this accident not survivable.

1.15. Test and Research

Inspection of wreckage only.

1.16. Medical Aspects

None available.

2. ANALYSIS AND CONCLUSIONS

2.1. Analysis

1. From the statements of witnesses it was apparent that the pilot, having passed over Sale Air Strip, decided to return and attempt a landing and that this attempt was made from a fairly long, low and fast approach. Witnesses also state that the pilot was attempting to put the aircraft on the ground all the way along the strip but that the wheels did not touch until the further threshold. From the evidence at this position on the site, marks on the ground show that the aircraft bounced along the ground for approximately 32 yards after which the aircraft became airborne again and climbed to a height of between thirty and forty feet before striking the top of a tree with the port main plane approximately 190 yards further on. This had the effect of tearing off the outer half of the port main plane and the aircraft swung to the left where it crashed into the ground eighty yards further on, and immediately burst into flames.

2. Witnesses also state that after the aircraft became airborne again it assumed a very tail-down attitude.

3. It was stated that the weather at the time was fine and clear with no low clouds and excellent visibility. It is probable that there was a slight cross-wind across the airstrip.

4. The aircraft had been refuelled from cans the previous day without a filter being used. There is a possibility therefore that there may have been some foreign matter in the fuel system which could have produced intermittent engine trouble.

5. From witnesses' statements however, the pilot did not appear to be having trouble with the aircraft. This is also borne out by the fact that not only did he make a circuit and take his time on the approach, but, having got the aircraft on the ground at the far end of the airstrip, the pilot decided to take off again.

2.2. Conclusions

(a) Findings

- (i) The documentation of the aircraft was in order.
- (ii) The aircraft had been properly maintained.
- (iii) There was no apparent pre-crash failure of the aircraft
- (iv) The weight of the aircraft and the centre of gravity were within the authorised limits and there was ample fuel for the flight.
- (v) The pilot elected to make an unscheduled landing at Sale airstrip the reason for which it has not been possible to ascertain.

(b) Cause

The accident was the result of the aircraft striking a tree whilst in a semi-stalled condition when the pilot initiated overshoot action after an attempted landing.

3.

RECOMMENDATION

The importance of observing utmost cleanliness during refuelling operations cannot be too highly stressed and, although it is by no means certain that foreign matter was introduced into the fuel system of this aircraft by refuelling without a filter, the possibility cannot be ruled out.

In addition, the practice of carrying spare cans of fuel inside an aircraft is a dangerous one and should be discouraged at all times, except in cases of real emergency.



D.C. Stewart

CHIEF INSPECTOR OF ACCIDENTS

12th August, 1969.