

CAV/ACC/16/65

ACCIDENT INVESTIGATION BRANCH

CIVIL AIRCRAFT ACCIDENT

Report on the accident to Piper PA.30
Aircraft Registration Number 5Y-ABN
which occurred on 26th December,
1965, at Ol Molog Airstrip,
Tanzania.

EAST AFRICAN COMMON SERVICES ORGANIZATION

CAV/ACC/16/65

EAST AFRICAN COMMON SERVICES ORGANISATION
ACCIDENT INVESTIGATION BRANCH
P.O. BOX 30163,
NAIROBI.


APRIL, 1966.

The Secretary-General

Sir,

I have the honour to submit the report by Mr. J.L. Hough, the then Deputy Chief Inspector of Accidents, into the circumstances of the accident to Piper PA.30 Aircraft 5Y-AEN which occurred on 26th December, 1965, at Ol Molog Airstrip, Tanzania.

I have the honour to be,
Sir,
Your obedient servant,


D.C. STEWART.

Chief Inspector of Accidents.

EAST AFRICAN COMMON SERVICES ORGANISATION

OFFICE OF THE SECRETARY GENERAL

ACCIDENT INVESTIGATION BRANCH

AIRCRAFT ACCIDENT REPORT

AIRCRAFT: Piper PA.30 5Y-ABN
ENGINES: Two Lycoming IO-320-B.
REGISTERED OWNER: Engushai Ltd., P.O. West Kilimanjaro.
OPERATOR: African Medical & Research Foundation,
P.O. Box 30125, Nairobi.
PILOT: Mr. D. Cartwright - uninjured.
PASSENGERS: Three - uninjured.
PLACE OF ACCIDENT: Ol Molog Airstrip, Tanzania.
DATE AND TIME: 26th December, 1965, at 0925 hours.

ALL TIMES IN THIS REPORT ARE G.M.T.

1. NOTIFICATION

By Wilken Air Services at 1330 hours on the 26th December, 1965. Two Inspectors of Accidents visited the scene the following day.

2. BRIEF CIRCUMSTANCES

The aircraft was making an approach to Ol Molog Airstrip. After the engines had been throttled back on final approach the port engine failed to respond when opened up a short distance from touchdown. The aircraft undershot and touched down in standing wheat near the threshold, collapsing the port undercarriage and coming to rest on the beginning of the airstrip. Fire did not occur but the aircraft received substantial damage.

3. THE AIRCRAFT

A PA.30 Twin Commanche 5Y-ABN was constructed by the Piper Aircraft Corporation, Lockhaven, U.S.A. in 1965 and arrived in Kenya the same year. A Kenya Validation Certificate of Airworthiness was issued on 19th May, 1965 valid for one year. The aircraft was registered on arrival in the name of Wilken Air Services Ltd., P.O. Box 4580, Nairobi and was subsequently re-registered in the name of Engushai Ltd., P.O. West Kilimanjaro. It was maintained in accordance

with an approved maintenance schedule, the last check being a Check I carried out on 24th December, 1965, at 478 hours 35 minutes. At the time of the accident the airframe hours were 482 hours 22 minutes and the engines had both run 482 hours 35 minutes since new.

The maximum total weight authorised in the Certificate of Airworthiness was 3725 lb. The calculated loading at the time of the accident was as follows:-

Empty Weight	2348 lb.
Fuel	396 lb.
Oil	30 lb.
Pilot	170 lb.
Passengers	300 lb.
Baggage	30 lb.
Total	<u>3274 lb.</u>

The aircraft was loaded and trimmed within the prescribed limits.

4. THE PILOT

Mr. D.R. Cartwright aged 19 years, held an East African Private Pilot's Licence issued on 13th November, 1964, and valid until 7th January, 1966, containing Group 'A' and 'B' ratings. He also held a Flight, Radio-Telephony Operator's Licence. At the time of the accident his total flying experience was 500 hours 10 minutes of which 11 hours was on the PA.30.

5. THE WEATHER

No official weather reports for the area at the time of the accident are available. The pilot estimated the weather to be:-

Surface wind 080° 15 knots (gusting).
Visibility Slightly hazy.
Scattered Cloud- 2000 ft. a.g.l.
Considerable turbulence.

The weather is not considered to be a significant factor in this accident.

6. THE FLIGHT

The aircraft had left Dar-es-Salaam at 0736 hours that morning in a private flight to Ol Molog Airstrip. The flight was normal, and after arriving overhead Ol Molog and observing the surface wind the pilot decided to land in the easterly direction. After crossing a small ridge some 500 yards from the beginning of the airstrip, he throttled back to steepen the aircraft's rate of descent. When down to a height of approximately 150 feet above ground level he opened the throttles again to adjust

his rate of descent but the port engine failed to respond. At this time, he recalls the indicated airspeed was 85 m.p.h. The pilot was unable to prevent the aircraft sinking into the wheat some 50 yards short of the airstrip. After touching with the starboard main wheel the aircraft yawed onto the port main wheel which collapsed, the aircraft decelerating rapidly.

7. INSPECTION

The aircraft had come to rest some 36 yards along and in the centre of the airstrip facing slightly right of the landing direction.

Damage.

Fuselage

- (a) Rear fuselage frames damaged together with accessories for stabilator mounting and associated metal skinning.
- (b) Central section skinning on port side in region of main spar severely damaged and distorted.
- (c) Metal skinning on starboard side aft of luggage compartment door together with top and side skinning buckled.

Empennage

Port stabilator and trim tab damaged beyond repair.

Mainplanes

(a) Port

- (i) Mainspar broken at Rib 9 with associated damage to rear spars, ribs, skin and stringers as a result of distortion.
- (ii) In the wheel well, the mainspar had been split by a sideways motion of the aircraft tearing the undercarriage retract brace trunnion bracket from its mounting.
- (iii) Pitot head and mounting, and flap runner outboard were also damaged by this same sideways motion.

Items (ii) and (iii) occurred after item (i).

(b) Starboard

Mainspar broken between Ribs 8 and 9, with associated damage to rear spar, ribs, skin and stringers as a result of distortion. The starboard aileron was damaged.

Investigation into Engine Malfunction.

The port engine was removed from the aircraft and installed on the test bed at Wilken Air Services and there subjected to running and acceleration checks with nothing abnormal being found. The fuel injector screen, air bleed nozzle screens and flow divider were all examined for cleanliness and, with the exception of the last, were uncontaminated. The flow divider contained a small drop of water which caused malfunction of the fuel flow gauge.

All fuel tanks and fuel strainers were examined for cleanliness with the following results:

- (i) Fuel strainers - Both were found to contain sediment and in addition the port strainer contained approximately one half teaspoonful of water and the starboard approximately a teaspoonful of water.
- (ii) Fuel tanks - Main and auxiliary tanks were found to contain foreign matter which included swarf, particles of paint and what appeared to be pieces of jointing compound.

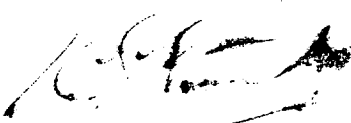
8. CONCLUSIONS

- (a) The documentation of the aircraft was in order.
- (b) The pilot was properly licensed and experienced to carry out the flight.
- (c) The aircraft was loaded and trimmed within the specified limits.
- (d) The port engine failed to respond when opened up during the final stage of the approach.

9. OPINION

The accident was the result of a loss of control on the part of the pilot when the port engine failed to respond to throttle opening. A contributory factor was an approach speed of 85 m.p.h. as against the recommended speed of 89 m.p.h. leaving too small a margin before attaining the minimum control speed for single engine performance of 80 m.p.h.

The cause of the failure of the engine to respond was not determined but the presence of water in the fuel strainers cannot be ignored as a contributory cause.



D.C. STEWART.

Chief Inspector of Accidents.

NAIROBI.

22nd April, 1966.