

CIVIL AVIATION AUTHORITY
P.O. BOX No. 430
KHARTOUM

REF: CAA/7.ACC.AP-BAM(11/87)

Date: 20 FEB. 1988

All Times in UTC

Final Accident Report

Title

OPERATOR:

Yadum Pest Control Ltd.
P.O. Box No. 3826, Khartoum.

OWNER:

Agricultural Aviation Ltd.
Y-29, Kassam
Manzuk Randal Road Karachi-Pakistan.

TYPE OF AIRCRAFT:

FLETCHER

MODEL OF AIRCRAFT:

FU24-950

NATIONALITY OF AIRCRAFT:

Pakistan

REGISTRATION OF AIRCRAFT:

AP-BAM

PLACE OF ACCIDENT:

7 KM west of Kosti town near
Um Taban village.

DATE OF ACCIDENT:

07 November, 1987.

Synopsis

NOTIFICATION:

Notification of the accident was made by the operator on 8 November 1987 to the Chief Accident Investigator CAA, Sudan. CAA, Sudan notified both the State of Register and the State of Manufacture.

INVESTIGATION AUTHORITY:

Civil Aviation Authority, Sudan.

AUTHORITY RELEASING THE REPORT:

Minister of Defence, Sudan.

BRIEF RESUME:

The aircraft crashed while the pilot was attempting to land at Kosti airstrip after sun-set.

1- FACT AL INFORMATION

1-1. HISTORY OF THE FLIGHT:

Please refer to appendix I for information regarding route of flight, aerodromes and their geographical co-ordinates.

The Fletcher FU-24-950 which was equipped with spray gear (four micronairs and one pump) was engaged in aerial spraying operations in the western regions of the Sudan. The aircraft was not equipped with radio communications or radio navigation systems. On 07 November 1987, upon completion of his assignment, the pilot was returning to his base at El Fau in the Central Region of the Sudan. He was accompanied by the aircraft mechanic during the flight. The pilot departed El Fasher airport at 0838 UTC

and landed at El Nahud at about 1000 UTC. Witnesses at El Nahud reported that the engine of the aircraft stopped while the pilot was circling overhead the town to alert the refuelling team to come to the aerodrome to refuel his aircraft; and that the pilot landed the aircraft with difficulty. The pilot and the mechanic spent about two hours at El Nahud aerodrome, topped the aircraft with fuel and informed the Plant Protection people that they would proceed to Kosti for refuelling and night stop with their country-mates at Kosti town. The pilot departed El Nahud at about 1300 UTC.

At Um Laban, 7 KM west of Kosti town, eyewitnesses reported that the aircraft approached their village from the west at about 1600 UTC and the pilot began to circle over the area at low altitude. The eyewitnesses reported seeing the landing lights of the aircraft while maneuvering over the area and then they heard the sound of hard impact. When the villagers reached the site of the crash 500 meters east of the village, they found the pilot dead tied with harness to his seat and found his colleague dead lying on the ground over the engine wreckage. The villagers reported the accident same evening to the Chief of Police of Kosti town who visited the site of the accident same night and carried the two bodies to Kosti Hospital for autopsy. The wreckage of the aircraft was guarded by the Police till the investigation was carried out.

1.2. INJURIES TO PERSONS:

Injuries	Crew	Passengers	Others
Fatal	1	1	Nil
Serious	Nil	Nil	Nil
Minor/None	Nil	Nil	

1.3. DAMAGE TO AIRCRAFT

The aircraft was destroyed beyond repair.

1.4. OTHER DAMAGE:- None.

1.5. PERSONNEL INFORMATION:

Pilot Name:- Mohamed Anwar Ansari
Age:- 41 years
Nationality:- Pakistan
Licence:- Holder of Pakistan CPL No.483/3, original issued on 1 April 1970 and valid until 17 February 1988. Licence endorsed for Fletcher FU-24, Cessna 150/152/180/185/188. He passed Instrument Rating on 24 December 1986.

Total Flying Hours-	2375 HRS
Flying Hours on Type:	250 HRS
Total Hours last 28 days:	97 HRS
Total Hours on day of accident about	06 HRS

1.6. AIRCRAFT INFORMATION:-

A. AIRFRAME:

Airframe No.223 was constructed by Aerospace Industry Ltd. RD.2 Hamilton Airport, New Zealand, on 11 August, 1976.

Hours flown since manufacture	1484 HRS
Hours flown since last	
Renewal of Certificate of Airworthiness	1101 HRS
Hours flown since last check IV:	100:05 HRS
Hours flown since last check I	50:00 HRS

B. ENGINE:-

Type: LYCOMING 10-720-A1B
 Constructor: AVCO Lycoming Division, Williams
 Port Pennsylvania, USA.
 Constructor's No. L-457-54
 Date of Construction: 1971
 Hours Run Since Overhaul: 346: 25 HRS.
 Check I Inspection carried on : 29 October 1987
 Hours Run since last check I : 50:00 HRS.

C. PROPELLERS:-

Type: HARTZELL - HC-C3YR - TRF/F 8475R
 Constructors No.: DY-294
 Date of Construction: April 1975
 Constructor: Hartzell Propeller INC. PIQUA,
 OHIO, USA.
 Propeller was overhauled on September 1986.
 Hours Run since new: 12:25 HRS.
 Hours Run since last overhaul: 346:25 HRS.

D. FINDINGS:-

The following items were checked:-

- (i) Certificate of Registration No. 536.
- (ii) Certificate of Airworthiness No. 489 issued on
 4 September, 1986.
 valid to 22 November 1987.
- (iii) Aircraft and Engine log books showing records
 of inspection checks.
- (iv) Maximum authorized total weight is 5,430 lbs.
 Maximum Commercial load authorized with fuel
 and oil tanks full is 1,468.9 lbs.
- (v) No chemical was carried on board during the
 flight.
- (vi) Weight and center of gravity were within the
 prescribed limit during the flight.
- (vii) Pilot log book was not available.
- (viii) Certificate of Insurance was not available and
 no evidence was found that the aircraft was
 insured for third party.
- (ix) Times, entries and other particulars were not
 recorded properly and correctly in the journey
 and aircraft log books.

E. FUEL:-

The Fletcher FU-24 used AVGAS 100 LL.

1.7. METEOROLOGICAL INFORMATION:-

(i) EL FASHER:

AT 0800 and 0900
 Wind 080/ 07 Kts.
 Visibility 20 KM
 Weather CAVOK
 QNH 1017 M.B.S.

(ii) EL NAHUD:-

AT 1000 and 1100
Wind 040⁰/11 Kts
Visibility 20 KM
Weather CAVOK
QFE 948 MBS.

(iii) EL OBIED:-

AT 1300-1400 - 1500
Wind 020/05 Kts
Visibility 20 KM
Weather CAVOK
QNH 1012 MBS.

(iv) KOSTI:-

AT 1500 and 1600
Wind 340⁰/04 Kts
Visibility 20 KM
Weather CAVOK
QNH 1010 MBS.

Sun set at Kosti on day of accident was at 1521 UTC.
Moon rise at Kosti was at 1643 on 7 November 1987
and moon-set at 0510 on 8 November 1987.

1.8. AIDS TO NAVIGATION:

The sprayer was not equipped with Radio NAVS.
This condition is not relevant to the accident.

1.9. COMMUNICATIONS:-

The aircraft was not equipped with Radio/COMM.
Kosti airstrip is also not equipped with Radio
communications. This condition is not relevant to the
accident.

1.10. AERODROME INFORMATION:-

Kosti airstrip lies about 4 KM south of Kosti town.
The runway surface is cotton soil and sand. Strip is
without lighting facility and normally used by Agro Planes.

The Fletcher FU-24 crashed at Um Laban village
about 3 KMS west of Kosti airstrip. The features of the
crash site and the airstrip are quite similar.

1.11. FLIGHT RECORDERS:-

Aircraft had no flight recorder.

1.12. WRECKAGE AND IMPACT INFORMATION:-

Examination of the accident site revealed that the
aircraft first hit the ground with the port wing tip
which caused the aircraft to make a 180 swerve while the
engine was running. The first section of the port wing
detached and thrown far from the impact position to
about 18 meters. The aircraft then struck the ground
severely with the body as a result of which the engine
detached from the engine mounting; and the aircraft sustained
complete destruction. Port side outer wing sheered off
and entire leading edge of the wings sustained severe
damage including fuel tanks. Port side wing center
section detached from the rear at fuselage inboard end.
Fuselage rear section ahead of empennage buckled up and
collapsed. Bulkhead behind baggage compartment damaged
heavily. Cockpit sheered off. Engine smashed up.
Windshield with frame broken. Control column and rudder
actuating torque tube broken. One propeller blade
detached from the root and other two blades bent about
30⁰ inwards. All electrical switches including lights
and landing lights were found in on position.

1.13. MEDICAL AND PATHOLOGICAL INFORMATION:-

The pilot and the passenger were killed immediately after the impact. The pilot was found dead tied with the belt to his seat. The passenger who was the aircraft mechanic was found dead lying on the ground face up and part of his rear skull bleeding on the wreckage of the engine.

Doctor Medical reports for the two deceased stated that the pilot died as a result of Cervical Spine; and the passenger died as a result of depressed fractured skull.

1.14. FIRE:-

There was no fire.

1.15. SURVIVAL ASPECTS:-

Chief of Police of Kosti town arrived at the scene of the accident with his rescue team released the bodies and carried them to Kosti Hospital for atopsy.

1.16. TESTS AND RESEARCH:-

No test or research carried out.

1.17. ADDITIONAL INFORMATION:- None.

1.18. USEFUL OR EFFECTIVE INVESTIGATION TECHNIQUES:- None.

2. ANALYSIS

- 2.1 . The pilot departed El Fasher airport quite late for one executing a fairly long cross county flight. Unexpectedly, he had an engine failure at his first intermediate stopover which contributed to further delay at El Nahud.
- 2.2. Eyewitnesses reported that the aircraft arrived overhead Um Laban village after sun-set and that the landing lights were on when the aircraft was circling over the area at low altitude.
- 2.3. During the investigation of the wreckage, the landing light switch was found in on position.
- 2.4. Witnesses reported that the engine was running when the aircraft was circling over the area.
- 2.5. The passenger's seat belt was not fastened when the crash occurred.
- 2.6. As the pilot was trying to locate the airstrip by use of the landing light, he would have the tendency to pitch the nose downwards and the aircraft may have collided with the ground while executing left turns at low altitude over the area.

3. CONCLUSIONS

The pilot was keen and pressing himself to spend the night with his fellow-Pakistanis at Kosti.

The pilot arrived at Kosti late after sun-set when there was no moon light and it was getting dark. He began to circle at low altitude apparently to find the airstrip which is not lighted. The pilot was using the landing light in an attempt to locate the airstrip and as he was executing low left turns over the area, the aircraft collided with the ground causing the aircraft to be destroyed and the two occupants to be killed.

4- SAFETY RECOMMENDATIONS

- 4.1. The attention of the agricultural pilots and operators should be drawn to adherence to the air rules regarding VFR flying. Pilots should plan their flights to terminate into unlighted aerodromes or airstrips well before sun-set.
- 4.2. The attention of pilots and operators be drawn to the need for the full safety harness to be fitted during each take-off and landing. This harness or cross-over straps should be worn by the occupants of both pilots' seats.
- 4.3. Attention of operators should be drawn to properly maintain journey, technical and aircraft log books in correct and regular manner.

5- APPENDICES

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| Appendix 1 | : | Route of flight and geographical co-ordinates. |
| Appendix 2 | : | Photographs of the aircraft after the accident. |
| Appendix 3 | : | Certificate of Registration. |
| Appendix 4 | : | Certificate of Airworthiness. |
| Appendix 5 | : | Correspondences. |
| Appendix 6 | : | Meteorological Reports. |
| Appendix 7 | : | Preliminary Aircraft Accident Report. |
| Appendix 8 | : | Technical Report on the condition of the wreckage. |
| Appendix 9 | : | Reconstruction of the Accident site. |
| Appendix 10 | : | Eyewitness Reports. |
| Appendix 11 | : | Death Certificate of the pilot
"MOHD. ANWAR ANSARI". |
| Appendix 12 | : | Death Certificate of the Mechanic
"MOHD. ARIF RASHID". |

