

Ref: CA/7/ACC. AP-AYZ
(20 -1982)

THE DEMOCRATIC REPUBLIC OF THE SUDAN
MINISTRY OF DEFENCE
CIVIL AVIATION DEPARTMENT

AIRCRAFT ACCIDENT REPORT
AIRCRAFT TYPE: FLETCHER FU - 24-950
REGISTRATION: AP - AYZ
12 NOVEMBER 1982

THE DEMOCRATIC REPUBLIC OF THE SUDAN
MINISTRY OF DEFENCE
CIVIL AVIATION DEPARTMENT
P.O. BOX 430
KHARTOUM - SUDAN

FINAL ACCIDENT REPORT

FLETCHER FU-24-950

AP - AYZ

12 NOVEMBER 1982

- | | |
|--------------------------------------|--|
| 1. AIRCRAFT TYPE | - Fletcher FU-24-950 |
| 2. REGISTRATION | - AP-AYZ |
| 3. NATIONALITY | - Pakistani |
| 4. OWNER | - Agricultural Aviation, Karachi |
| 5. OPERATOR | - Central Trading Co., Khartoum |
| 6. DATE AND TIME OF ACCIDENT | - 12 November 1982: 1345 GMT |
| 7. PLACE OF ACCIDENT | - 6 miles SW of Wad Taktouk |
| 8. CREW | - One |
| 9. PASSENGERS | - Nil |
| 10. WEATHER | - Fine |
| 11. INJURIES | - Nil |
| 12. DAMAGE TO AIRCRAFT | - Substantial |
| 13. PHASE OF FLIGHT | - Initial Climb |
| 14. NATURE OF FLIGHT | - Crop Spraying |
| 15. PHYSICAL CHARACTERISTICS OF AREA | - Flat Swampy Ground |
| 16. CREW INFORMATION | - Pilot was properly licensed |
| 17. AIRCRAFT INFORMATION | - Aircraft was airworthy at time
of accident |
| 18. MAXIMUM TOTAL WEIGHT OF AIRCRAFT | - 5460 LB |
| 19. NOTIFICATION: | Notification was made on 14 November 1982 by Central
Trading Company to Director Flight Operations, Civil
Aviation Department. |
| 20. INVESTIGATION AUTHORITY: | Civil Aviation Department |
| 21. AUTHORITY RELEASING REPORT: | Minister of Defence |

Note: All times in G.M.T.

1. FACTUAL INFORMATION

1.1 HISTORY OF THE FLIGHT

On 12 November 1982 the aircraft successfully completed six spray sorties and, at 1345 gmt, took off for the seventh sortie.

The surface wind was 360°/10-15 knots and the direction of take-off was 360°.

Shortly after becoming airborne the throttle was eased back to climb power and, almost immediately, a partial loss of power was noted accompanied by engine vibration. The loss of power and vibration became more pronounced after a few seconds. A straight heading was initially maintained but, at a height of only 100 feet, the loss of power had become so critical that the aircraft stopped climbing.

As the loss of power became more pronounced and the aircraft's airspeed started to decay, a gentle turn was commenced to the left so as to head towards more open ground. At this time repeated efforts were made to dump the chemical load, but these were unsuccessful.

The aircraft then gradually lost height, eventually touching down in the marshy area in a semi-stalled condition. After switching off the ignition, the pilot evacuated without injury.

1.2 INJURIES

INJURIES	CREW	PASSENGERS	OTHERS
FATAL	-	-	-
SERIOUS	-	-	-
MINOR/NONE	1	-	-

1.3 DAMAGE TO AIRCRAFT

The aircraft was substantially damaged and probably beyond economical repair.

A. FUSELAGE

1. Belly area damaged
2. Extensive damage during recovery operations

B. PORT WING

1. Wing flap skin slightly sheared and bent

C. STARBOARD WING

1. Wing completely detached from the main spar and damaged

D. LANDING GEAR

1. All landing gear legs collapsed and/or damaged

E. ENGINE

1. Engine mountings pulled away from fuselage
2. Engine almost certainly shock loaded
3. Engine under cowlings damaged

F. PROPELLER

1. Both blades bent and damaged

G. EMPENNAGE

1. No visual damage

1.4 OTHER DAMAGE

- A. There was no other damage to persons or property

1.5 PILOT

- A. Name - Mohammad Iqbal Khan
- B. Age - 35 years
- C. Licence type and number - Pakistan CPL No. 618/3
- D. Total flying hours (all types) - 2800 Hrs
- E. Total flying hours (Fletcher FU-24) - 278
- F. Flying hours last 28 days prior to accident - 23
- G. Flying hours last 7 days prior to accident - 3
- H. Flying hours last 48 hours prior to accident - 3
- I. Flying hours same day as accident - 3

J. Pilot's duty and rest periods within limits

1.6 AIRCRAFT INFORMATION

A. AIRFRAME

Type - Fletcher FU-24-950

Airframe Construction Number - 221

Constructed by - New Zealand Aerospace Industries Ltd.
Hamilton, New Zealand

Total flying time since new - 1044 hours 30 minutes

Flying time since last Certificate of Airworthiness
renewal - 102 hours 30 minutes

Flying time since last Check I (50 hours) - 9 hours 50 mins.

Last Check completed on - 1 November 1982

B. ENGINE

Type - Lycoming 10 - 720 - AIB: Constructed 1976

Serial number - L - 779 - 54

Time since new - 1044 hours 30 minutes

Time since last Certificate of Airworthiness renewal -
102 hours 30 minutes

Flying time since last Check I (50 hours) - 9 hours 50 minutes

C. PROPELLER

Type - Hartzell HC - C3YR - IRF/F8475R: Construced 1976

Serial number - DY 383

Time since new - 1044 hours 30 minutes

Time since last Certificate of Airworthiness renewal -
102 hours 30 minutes

Time since last Check I (50 hours) - 9 hours 50 minutes

Last Check I completed - I November 1982

D. THE WRECKAGE

1. The wreckage was not examined insitu due to the nature of the terrain. Recovery operations resulted in further extensive damage to major components. The aircraft is considered to be beyond economical repair.
2. Investigations did not reveal why the engine should have malfunctioned.
3. Investigation did not reveal why the dump mechanism should have failed to release the chemical load.
4. Investigation did not reveal any further malfunctions of equipment, instruments or flying controls.

1.7 METEOROLOGICAL INFORMATION

- A. Visibility - Good
- B. Cloud Base - No cloud
- C. Wind Velocity - 360°/10-15 knots
- D. Temperature - not accurately known

1.8 AERODROME INFORMATION

- A. Runway: Direction 36/18
 - Length 900 metres
 - Width 25 metres (approximately)
 - Surface Gravel earth
 - Slope Generally flat
- B. Approaches: Good
- C. Hazards: An irrigation canal passes across the northern end of the strip

1.9 WRECKAGE AND IMPACT INFORMATION

- A. The aircraft was lying in soft, swampy terrain with the engine and collapsed undergarriage legs partly buried.
- B. The starboard wing was sheared off from the main spar

1.10 FIRE

- A. No fire ensued

2. ANALYSIS AND CAUSES

- 2.1 A loss of engine power shortly after becoming airborne and before the aircraft became properly established in the initial climb. This combination gave the pilot little choice in selecting a landing ground.

3. CONCLUSIONS

FINDINGS

- 3.1 The pilot was properly licensed
- 3.2 The training and experience of the pilot, as shown in documents, was satisfactory
- 3.3 The documents of the aircraft were up to date and showed no irregularity
- 3.4 The aircraft was airworthy at the time of the accident and had sufficient fuel for the intended flight
- 3.5 Loading of the aircraft and the Centre of Gravity are believed to have been within limits
- 3.6 There was no pre-crash failure of the airframe, flying controls, instruments or tyres
- 3.7 Shortly after becoming airborne, the engine lost considerable power
- 3.8 The chemical dump system failed to operate
- 3.9 The pilot had observed normal rest periods and pilot performance was not affected by fatigue
- 3.10 The strip being used was satisfactory for the type of aircraft and the operation
- 3.11 The take-off direction was 360°. The surface wind was 360°
- 3.12 The weather was fine and clear
- 3.13 After becoming airborne the aircraft suffered a partial loss of engine power. The resultant power available was insufficient to sustain flight.
- 3.14 The undercarriage was destroyed on impact
- 3.15 The starboard wing became detached on impact
- 3.16 The engine became partly detached from its mountings on impact
- 3.17 Other damage resulted from the impact and from the recovery operations
- 3.18 The pilot was not injured
- 3.19 The pilot evacuated via the open cockpit hood

CAUSE(S) OR PROBABLE CAUSE(S) OF ACCIDENT

1. The partial loss of engine power shortly after becoming airborne.

4. SAFETY RECOMMENDATIONS

1. Operators of crop spraying aircraft operating in the field be advised to ensure proper maintenance of aircraft, engines and all equipment, including chemical dump systems.



Taha El Sadik
Investigator-in-Charge

DM/dm

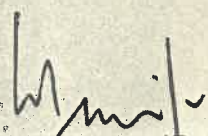
OBSERVATIONS OF THE DIRECTOR GENERAL, C.A.A.

1. I have examined the Aircraft Accident Investigation Report prepared by the Department of Civil Aviation, Government of Sudan involving Fletcher F.U-24-950 type of aircraft bearing Nationality & Registration marks AP-AYZ which occurred on the 12th November, 1982 in Sudan.

2. I approved the following :-

2.1: The Airworthiness Branch be instructed to direct operators engaged in crop spraying from strips away from maintenance facilities to ensure that extra care is exercised in maintaining the aircraft and all equipment installed on it in accordance with Approved Maintenance Schedule.

2.2: An accredited representative be sent to participate in Aircraft Accident Investigation whenever a Pakistan registered aircraft is involved in accident outside Pakistan territory.


(KHURSHID ANWAR MIRZA)
Air Vice Marshal
DIRECTOR GENERAL,
CIVIL AVIATION AUTHORITY