

INVESTIGATION REPORT ON THE INCIDENT TO M/S
BURRAQ AVIATION CESSNA-180 REG.MK. AP-AOU
WHICH OCCURRED ON 9TH JULY,1987 AT BHAWALPUR
AIRPORT

1.Aircraft Information

- | | | | |
|---------|---|---|--|
| 1.1. | Aircraft type and manufacture Serial No. | - | Cessna-180 1963/64
84744-3-R-4 |
| 1.2. | Nationality and Registration Marks. | - | AP-AOU |
| 1.3. | Engine type,installations and Manufacturer's Serial No. | - | Continental O-470 R
84744-3-R-4 |
| 1.4. | Propeller type | - | M.C cauley propeller
constant speed,
Diameter 62 inches. |
| 1.5. | C of R No. and validity | - | AP-AOU valid |
| 1.6. | C of A and validity | - | 09-04-87 to 08-04-88 |
| 1.7. | C of M and validity | - | 30-06-87 to 10--7-87 |
| 1.8. | Date of manufacturing of airframe. | - | 1963 |
| 1.9. | Owner | - | Peshawar Flying Club |
| 1.10. | Operator | - | M/S. Burraq Aviation |
| 1.11. | Max Gross weight permitted | - | 1272 KG |
| 1.11.1. | Weight at the time of accident. | - | 1266 KG |

2. Crew Information:

2.1. Pilot-in-Command

- 2.1.1. Name - Muhammed Anwar Ansari
- 2.1.2. Position in the cockpit - Captains left seat
- 2.1.3. Date of Birth - 25-12-1946
- 2.1.4. Type of Licence held - CPL No. 483/3
- 2.1.5. Medical date with status - 05-02-87. (Fit for renewal of CPL)
- 2.1.6. Rating:-
 - 2.1.6.1. Type(s) held - C-150/152, C-185
Fletcher FU-24,
C-188, C-172
 - 2.1.6.2. Type Current - C-150/152, C-185, FU-24
C-188
 - 2.1.6.3. Asstt. Flt. Instructor Rating - Asstt Instructor Rating
- 2.1.7. Flying Experience - Flight Experience upto 8-2-1987
 - 2.1.7.1. Grand Total - 2303.00
 - 2.1.7.2. Total in Command on type (C-180) - 80 hours
- 2.1.8. Where trained - P.A.F.

3. Summary of Accident.

3.1. On 9th July 1987 Sqn Ldr (Retd) M. Anwar Ansari Captain of Aircraft Cessna-180 Nationality & Registration Marks Ap-AOU departed Multan at 1005 hours for Bhawalpur. At Bhawalpur he was to pick up leaflets of CIBA GEIGY COMPANY and carry out a leaflet dropping sortie around Bhawalpur.

3.2. The flight was normal and uneventful. However when landing at Bhawalpur, R/W 26, the aircraft after touch down swung to the left. The pilot took corrective action by applying right rudder but the aircraft did not respond. It continued its course to the left, went off the runway and came to a stop approximately 100 yds away from the runway edge facing 140 degrees.

4. Injury to Person(s)

4.1. There was no injury caused to either pilot or the passengers.

5. Damage to the Aircraft

5.1. Damage report is attached at appendix 'A'.

6. Other Damage.

6.1. No other damage was caused either to equipment or property.

7. Meteorological Condition.

7.1. Weather was fair and the surface winds reported was South Westerly (236) 09 Kts. Appendix 'B'.

8. Navigation and Landing aids (visual/non visual)

8.1. Navigation aids were not a factor in this accident.

9. Communications.

9.1. Aircraft was in contact with the ATC throughout the flight.

9.2. Communication was not a factor in this accident.

10. Aerodrome and ground facilities.

10.1. Aerodrome and ground facilities were adequate.

10.2. Aerodrome and ground facilities were not a factor in this accident.

11. Flight Recorders.

11.1. This aircraft is not fitted with flight recorders nor is required to be fitted with one.

12. Wreckage and Impact information.

12.1. The aircraft AP-ADU was found 100 ft from the edge of the runway 26 towards the eastern side facing 140. After thorough inspection carried out by the investigators and recording of

the statement of the pilot, the wreckage was released not being required any longer for investigation.

13. Fire.

- 13.1. Fire did not occur during or after the accident however the fire tender reached the scene of accident immediately and remained in position for any such occurrence.

14. Survival Aspects.

- 14.1. The Pilot of the aircraft alongwith three passengers survived the accident. They did not experience any difficulty in evacuating the aircraft.

- 14.2. It was a survivable accident.

15. Test and Research.

- 15.1. Not required.

16. Observations.

- 16.1. Nil.

17. Investigation.

- 17.1. The pilot of the aircraft Captain Anwar Ansari, after the accident informed Operations Investigator Muhammad Ali Siddiqui on telephone from Bhawalpur of the occurrence on 9th July, 1987 at 1245 PST. The Chief Inspector detailed Operations Investigator Mr. Mohammad Ali Siddiqui and Mr. Zafarullah Khan Senior Airworthiness Surveyor at Lahore to proceed to Bhawalpur for the purpose of investigation. The Airport Manager Bhawalpur was instructed to secure the wreckage.

- 17.2. Both the investigators reached Bahawalpur on 10 Jul 87 at 1710 PST. On arrival they immediately proceeded to the scene of accident.

- 17.3. The aircraft was identified as C-180 bearing Nationality and Registration Marks AP-AOU. It was found lying at a distance of approximately 2000 ft from the threshold of runway 26 (Runway in use) in the Kutchha at 100 ft from the eastern edge of the runway. The aircraft was facing 140°. The tail wheel was twisted up on the left side and the wreckage was resting on main gears and the tail section.

17.4. A detailed inspection of the wreckage was carried out by the investigators. Photographs were taken and the damage was assessed and recorded (Appendix - 'A'). Only those photographs considered necessary for this investigation have been used in this report.

17.5. After the inspection of the wreckage, a question and answer session was carried out with the pilot and statements of the witnesses were recorded.

18. Witnesses.

18.1. Statements of the following witnesses were recorded.

Capt. Mohammad Anwar Ansari	- Pilot of the aircraft 'E'	APPENDIX
Mr. Anjum Shaikh	- Passenger	'G'
Syed Ehtesham Hussain	- Passenger	'H'
Mr. Hadi Askari	- Passenger	'J'
Mr. Ziaullah Sheikh	- Airport Manager 'K'	Bhawalpur

18.2. Documents.

18.2.1. The following information was obtained from the documents.

- (a) The aircraft was properly registered bearing Nationality and Registration Marks AP-AQU.
- (b) The aircraft was properly maintained having valid Certificate of Airworthiness and certificate of maintenance.
- (c) Flight was properly authorized.

18.3. Following information was obtained from witnesses of the accident.

18.3.1. Cross wind at the time of landing was 225 /10Kts.

18.3.2. The aircraft made a steady approach for landing without any crab or side slip.

18.3.3. After flaring out, the tail wheel of the aircraft touched first. The aircraft after touch down immediately swerved to the left, went off the runway and came to a stop in the kutchra.

18.3.4. The fire tender reached the site of the accident immediately after the occurrence.

18.3.5. The fire tender operator and Airport Manager rushed to the aircraft to rescue the pilot & the passengers and to operate the fire extinguisher in case of fire. However all occupants of the aircraft were uninjured and evacuated the aircraft without assistance. There was no fire as such fire extinguisher was not used.

19. Discussion.

- 19.1. C-180 Nationality and Registration Marks AP-AOU was on a flight from Multan to Karachi via Bhawalpur and Sukkur as per the flight plan (Appendix 'C'). At Bhawalpur the pilot was required to pick up leaflets of CIBA GIEGY COMPANY & aerial drop these leaflets around Bhawalpur area and then proceed to Karachi.
- 19.2. The pilot of the aircraft Captain Anwar Ansari on his departure from Multan picked up 197 Kg fuel which is the total capacity of the fuel tanks of the aircraft. Being a four seater, there were three passengers on board along with baggages and spares of the aircraft. During the question and answer session, when the pilot was asked if he had calculated the C.G. & had prepared the load sheet he stated that the load sheet was prepared before departure but accidentally the aircraft mechanics had taken them to Karachi. (Appendix 'F'). On another occasion the pilot when asked as to what was the fuel quantity in the tanks at the time of accident, he quoted a figure of 177 Kg (Appendix 'D'). Assuming that 20 Kgs were spent during the 40 minutes flight from Multan to Bhawalpur, the figure of 197 Kgs tallies. However on return to Karachi, when the pilot was asked to submit the load sheet, he produced load sheets with different figure of fuel weight i.e. 143 Kgs. This figure has been wrongly quoted to show that the weight configuration at take off from Multan was within limits. The fact is that the aircraft weight was above the take off gross weight limit at take off from Multan and even during the landing at Bhawalpur (Appendix 'D'). When C.G. of the aircraft was calculated with the weight configuration given by the pilot in his statement after the accident, it was found that the C.G. lay outside the C.G. envelope and the aircraft was overweight by 51 Kgs at take-off from Multan and 31 Kgs above the maximum take-off gross weight during landing at Bhawalpur (App 'D').
- 19.3. Captain Anwar Ansari although trained on Harvards, has been a helicopter pilot during most of his service in the Air Force. After a gap of 18 years he started flying fixed wing aircraft. His experience on tail wheelers (60 hrs current flying) is limited specially commercial/passenger flying which requires proper load management during all phases of flight. During landing the aircraft swung left very gradually as the tyre tracks show in the photograph at (appendix 'L'). The pilot being in-experienced on tail

wheel aircraft took corrective action by applying right rudder only. The rudder not being very effective at slow speeds the aircraft did not straighten out from the swing. The pilot instead of applying opposite brake sat with right rudder fully depressed & let the aircraft swing in to the kutcha till it came to a stop by itself. The right wing tip touched the ground and the tail wheel due to side loads bent to the left and upwards.

- 19.4. The prevailing surface wind at the time of landing was 235 /10Kts. The aircraft has a tendency to align itself into the wind due to weather vane effect. Since the wind was from the left, the aircraft nose moved left into the wind. The C.G. of the aircraft being aft, the swing tendency was further assisted and the aircraft continued to swing to the left. The failure of the pilot to use brakes or or power to control the swing is a major factor in this accident.

20. Findings:

- 20.1. The aircraft was properly registered.
- 20.2. The Certificate of airworthiness was valid.
- 20.3. The certificate of maintenance was valid.
- 20.4. Flight was properly authorised.
- 20.5. Captain Anwar Ansari was holding a valid Commercial Pilot Licence and proper rating for the type of A/C
- 20.6. There were no defects reported on the aircraft AP-ADU.
- 20.7. The aircraft was improperly loaded. It was overweight by 51 Kgs at the time of take-off and 31 Kgs above the maximum take-off gross weight during landing and at the time of accident. The centre of gravity was found aft and outside the C.G. limit.

21. Cause:

- 21.1. A swing to the left on landing for the following reasons:
 - 21.1.1. Improper loading prior to take-off resulting in an aft centre of gravity.
 - 21.1.2. A cross wind component from the left.
 - 21.1.3. Incorrect technique employed by the pilot in attempting to control the swing to the left.
 - 21.1.4. Inexperience of the pilot on tail wheel A/C.

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22. Recommendations:

- 22.1 From the foregoing investigation and findings the investigator recommends.
- 22.2. The pilots licence has already been suspended for 28 days under Rules 310(2) of Civil Aviation Rules 1978 and no further disciplinary action is recommended.
- 22.3. The pilot is to fly 5 hours on tail wheel aircraft under supervision of flight Instructor to familiarize himself with loading procedures and control of the aircraft on landing, specially the technique of control during a swing on landing.

3.
Dated: 17th Aug. 87.

APP "L1"



AIRCRAFT RESTING ON MAIN GEARS AND TAIL SECTION.

APP "L2"



TYRE TRACKS SHOWING WHERE THE AIRCRAFT LEFT THE RUNWAY

APP "L3"



TAIL WHEEL DUE TO SIDE LOADS BENT TO THE LEFT AND UPWARDS

APP "L4"



SCRAPE MARKS SHOWING RIGHT WING TIP TOUCHED THE GROUND.



APP "L5"

ANOTHER VIEW OF RIGHT WING TIP WHERE THE REVETS ARE MISSING.



APP "L6"

RIGHT SIDE TAIL SECTION DAMAGED AND BENT

APP L 7"



ANOTHER VIEW OF THE DAMAGE TO THE TAIL WHEEL.

APP L 8"



TYRE TRACKS SHOWING AIRCRAFT SWING TO THE LEFT.