ORIGINAL

NO.HQCAA/1901/224/SIB

CAA

سول ایوی ایشن اتھارٹی

CIVIL AVIATION AUTHORITY
PAKISTAN

AIRCRAFT ACCIDENT INVESTIGATION

M/S LAHORE FLYING CLUB

PIPER CHEROKEE REG.NO.AP-AYT

ON 29TH OCTOBER, 1997

AT

WALTON AERODROME

LAHORE

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KARACHI, PAKISTAN

INVESTIGATION REPORT

ACCIDENT TO M/S LAHORE FLYING CLUB PIPER CHEROKEE AIRCRAFT REG NO. AP-AYT ON 29TH OCTOBER, 1997 AT WALTON AERODROME LAHORE.

Authority:- Director General Civil Aviation Authority Memorandum No. HQ CAA/1901/224/SIB dated 4th November, 1997

Composition Of Investigation Team

(a)	Air Commodore(Retd) Rashid Ahmed Bhatti Pilot Investigator SIB CAA	Investigator Incharge
(b)	Wg Cdr (Rtd) Sajjad Ahmed Technical Investigator, SIB CAA	Investigator

1. AIRCRAFT INFORMATION

1.1.	Aircraft type and maker's Sl.Nos.	:	Piper Cherokee PA - 28 - 151
1.2.	Reg. NO.	:	AP-AYT
1.3.	Engine types, airframe positions & S.Nos.	:	-
1.4	Certificate of Registration No. and validity.	:	492 Valid
1.5	Certificate of Airworthiness No. & date of expiry, and flight manual No.	:	445 Valid upto 13.06.1998
1.6	Certificate of Safety date & time (GMT) of issue and period of validity.	:	Valid

1.7	Date of construction of airframe.	:	1974
1.8	Name and address of Owner.	:	Lahore Flying Club
1.9	Airframe history. (Give flying times since manufacture, last overhaul and last periodic check. List also essential modifications completed.	:	4362.15 Hrs
1.10	Engine history. (Give flying time since manufacture, last overhaul and last periodic check. List also essential modifications completed).	:	7173.45 Hrs 673.45 Hrs (Last O.H.)
1.11	Gross Weights. Maximum permitted by C of A for this flight, at the time of accident.	:	4700 Kg.
1.12	Loading. Centre of gravity limits in C. of A. and centre of gravity position at the time of accident and commencement of flight.	:	Within Limits

2. CREW INFORMATION

2.1 Pilot-in-Command

2.1.1. Name	:	Mian Khalid Mahmood Hasrat
2.1.2. Position in the Cockpit	:	Captain
2.1.3. Date of Birth	:	12.10.1970
2.1.4. Type of Lic and No	:	CPL NO.2078
2.1.5. Medical date with status	:	18.02.1997 (Fit for Renewal of CPL)

2.1.6. **Rating**

2.1.6.1. Type(s) held	:	C-150, C-152, C-172
2.1.6.2. Type current	:	Piper Cherokee PA-28

2.1.7. **Flying Experience**

2.1.7.1. Grand total	:	300 Hours.
2.1.7.2. Total -in - Command	:	259.00 Hours.
2.1.7.3. Where trained.	:	Lahore Flying Club.

3. SUMMARY OF ACCIDENT

3.1. On 29th October, 1997 Captain Khalid Mahmood who is employed as Pilot in M/s Lahore Flying Club on hourly flying basis was detailed by CFI, Lahore Flying Club to fly a joy ride mission in Piper Cherokee aircraft Reg. No.AP-AYT. At about 1250 hours he took a lady and another person on board the subject aircraft. The aircraft took off at about 1340 hours with two passengers and flew for about 30 minutes around the city and training area. At 1410 hours the aircraft came back for landing at /Walton Aerodrome runway 32. The aircraft touch down 1000 feet down the runway. Soon after touch down when nose wheel was lowered the aircraft started moving to the right. Pilot made an effort to keep the aircraft straight with the help of left rudder and left brake application but the aircraft continued moving to the right and departed the runway and went over the right edge of the runway into the kutcha area. During this process the left wheel axle broke and left leg detached from the wing. The aircraft came to stop in uneven kutcha area about 70 feet to the right side of the runway and 1500 feet from the beginning of runway 32 and resting on its left wing.

4. INJURY TO PERSONS

4.1. There was no injury to any passenger or pilot of the aircraft.

5. DAMAGE TO AIRCRAFT

5.1 A substantial damage was caused to the aircraft as a result of this accident. For details see Appendix 'B' and Appendix 'C' (Photographs).

6. OTHER DAMAGE

6.1. None.

7. METEOROLOGICAL CONDITIONS

7.1. The weather was good and visibility was 8 Kilometer. The wind was light and variable.

8. NAVIGATION AND LANDING AIDS

8.1. Not relevant.

9. COMMUNICATION

9.1. Not relevant.

10. AERODROME AND GROUND FACILITIES

10.1. The right shoulder of the runway where the aircraft finally stopped is quite uneven and broken bricks are lying in the kutcha area. Moreover, the runway edges are not level and fair weather strip is not compacted as per laid down requirements.

11. FLIGHT RECORDERS

11.1 Not applicable.

12. WRECKAGE AND IMPACT INFORMATION

12.1. See Appendix 'C'.

13. FIRE

13.1. No fire was caused in this accident.

14. WITNESSES

14.1. Statement of witnesses are given in Appendix 'D1' to 'D4'.

15. INVESTIGATION

15.1. Captain Khalid Mahmood stated that aircraft touch down about 1000 feet down the runway 32 on main wheels. However, when nose wheel was lowered the aircraft started moving to the right and he started correcting for it by applying left rudder, but aircraft continued moving to the right . He then applied left brake to control the direction of aircraft but it did not improve the situation and eventually the aircraft drifted to the right side of the runway on a fair weather strip. He also stated that the aircraft had no pulling tendency while he taxied the aircraft for take off.

15.2. Captain Naveed Ahmed Khan CFI, Lahore Flying Club stated that Captain Khalid has recently graduated from F.I.T.S. Peshawar Flying Club and he is an average pilot having about 400 hours of total flying experience. He also stated that passenger can sit on the front seat along with the pilot of the aircraft.

15.3. Muhammad Hussain Chaudhry Chief Engineer Lahore Flying Club stated that the subject aircraft was fully serviceable and had flown two sorties in the morning prior to this accident and no defect was reported. He further stated that no discrepancy had been reported on nose wheel steering system of the aircraft on the last 10 sorties prior to this accident and no service bulletin pertaining to MLG or olio was outstanding.

15.4. Mr. Adnan Kahn ATCO on duty stated that the right shoulder of the runway 32 where the aircraft finally stopped is quite uneven and runway edges are not level .

15.5. The tyre marks on the runway revealed an evidence of hard braking i.e. both wheel brakes were functioning properly. See Appendix 'C'.

16. **ANALYSIS**

16.1. From the statement of witnesses and examination of scene of accident it appears that pilot after making a normal landing 1000 feet down the runway 32 had planned to clear the runway by making left turn on to the taxi track which is about 1700 feet down the runway 32. For this purpose he initially applied right rudder to bring the aircraft close to the right edge of the runway so as to enable him to make an easy exit to the taxi track on the left, which requires about 120 degree of left turn to clear the runway. During this ground maneuvering he probably misjudged his speed when he was approaching the right edge of the runway. When pilot realized that the speed of the aircraft is high close to the right edge of the runway, he tried to apply brakes to slow down the aircraft and at the same time he tried to make a left turn with the help of nose wheel steering and hard left brake application. During this process the aircraft started skidding to the right and pilot could not control the aircraft and eventually it departed the runway towards right fair weather strip. See Appendix 'E'.

16.2. As the aircraft wheel went over the uneven edges of the runway and the raised gutter pit in the area of uneven fair weather strip, the left wheel axle broke which damaged the left brake assembly thus causing the left leg to detach from its wing joints.

16.3. The subject aircraft has dual control system for imparting training to the student pilots. One passenger on a joy ride was sitting on the front seat along with the pilot. It is quite possible that after landing the passenger may have unintentionally interfered with the rudder pedals when pilot was planning his ground maneuver for making a left turn on to the taxi track. This interference by the passenger may have taken the aircraft far to the right side of the runway and pilot may not have been able to control the situation in time.

16.4. The pilot had stated that when aircraft was moving towards right side, he applied left brake to control the direction of aircraft but it did no improve the situation. However, the tyre marks evidence obtained from the scene of accident revealed that pilot had applied both the brakes with a view to slow down the aircraft as it was approaching towards the right edge of the runway. Therefore, the statement of pilot could not be corroborated with other sources of evidence.

17. FINDINGS

17.1. On 29th October, 1997 Captain Khalid Mahmood was authorized by the CFI Lahore Flying Club to fly a joy ride mission along with two passengers on a Piper Cherokee aircraft Reg. No. AP-AYT.

17.2. The aircraft was fully serviceable and no discrepancy had been reported on nose wheel steering system of the aircraft on the last 10 sorties.

17.3. The subject aircraft had flown two missions on 29th October, 1997 prior to the subject accident and no defect was reported on any aircraft system.

17.4. The aircraft took off at about 1340 hours along with two passengers for joy ride mission. One of the passenger occupied the front seat along with the pilot.

17.5. The aircraft landed at about 1410 hours and touch down 1000 feet down the runway 32.

17.6. Immediately after touch down the pilot probably wanted to clear the runway by making about 120 degree left turn to exit from a taxi track which is about 1700 feet down the runway 32. See Appendix 'E'.

17.7. The pilot initially applied right rudder to bring the aircraft close to the right edge of the runway to make more space available for executing left turn.

17.8. During this ground maneuver, pilot due to high speed of the aircraft, could not manage and control the situation. He tried to apply hard brakes to slow down the aircraft and simultaneously applied left rudder to initiate left turn. During this process the aircraft skidded to the right and departed the runway.

17.9. The aircraft wheel went over the uneven edge of the runway causing left landing gear to detach from its wing joints.

17.10. The possibility of unintentional interference of rudder pedals by the passenger sitting in the front seat of the aircraft can not be ruled out as such the pilot may not have been able to control the situation in time.

17.11. The aircraft was fully insured.

18. CAUSE(S) OF ACCIDENT

18.1. The most probable cause of the accident is that the pilot, after making a normal touch down at 1000 feet down the runway 32, wanted to clear the runway quickly via the taxi track which was only about 700 feet from the touch down point. During this process the planned ground maneuvering on the runway could not be managed properly keeping in view the speed of the aircraft and the short distance available for left turn on to the taxi track.

18.2. Unintentional interference of rudder pedals by the passenger sitting in the front seat could have contributed to the cause of accident.

19. RECOMMENDATIONS

19.1. Chief Flying Instructor M/s Lahore Flying Club is to ensure that all pilots are briefed that after landing they should execute a turn only after the aircraft has slowed down to a slow taxiing speed.

19.2. President Lahore Flying Club is to review the policy of allowing the passengers to sit on the front seat of the aircraft having dual control systems.

19.3. Chief of Flight Standard is to issue instructions to all Flying Club/General Aviation Companies that whenever a passenger is permitted to sit on the front seat of the aircraft having dual controls then the pilot must ensure that the passenger is thoroughly briefed on the possibility of unintentional interference with the flight controls or any other switch and its hazardous consequences during critical stage of flight etc. etc.

19.4. APM Walton Aerodrome Lahore, is to ensure that runway edges are leveled properly and fair weather strip are prepared as per laid instructions.

APP. 'C1'

VIEW OF AIRCRAFT IN RT FAIR WEATHER STRIP

APP. 'C2'

AN OTHER VIEW OF AIRCRAFT IN RT FAIR WEATHER STRIP

APP C3

VIEW OF AIRCRAFT FROM THE REAR

APP C4

LEFT WHEEL DETACHED FROM MLG

HARD BRAKE APPLICATION MARKS

APP. 'C6'

HARD BRAKE APPLICATION MARKS

APP. 'C7'

HARD BRAKE APPLICATION MARKS

HARD BRAKE APPLICATION MARKS

APP. C9

UN EVEN RUNWAY EDGES AND FAIR WEATHER STRIP

APP. C10

UN EVEN RUNWAY EDGES AND FAIR WEATHER STRIP