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ORIGINAL

1904/120

# AIRCRAFT INCIDENT INVESTIGATION REPORT

PIA BOEING - 707 AP - BBK  
PESHAWAR AIRPORT  
ON  
17TH OCTOBER, 1990

**CIVIL AVIATION AUTHORITY**

**KARACHI, PAKISTAN**

**AIRCRAFT ACCIDENT INVESTIGATION REPORT**

**LANDING INCIDENT AT PESHAWAR AIRPORT ON 17TH OCTOBER, 1990 AT**  
**1650 HRS PST INVOLVING PIA BOEING 707 REG. MK. AP-BBK**  
**WHILE OPERATING SCHEDULED DOMESTIC PASSENGER**  
**FLT.PK.326 FROM KARACHI TO PESHAWAR**

Authority: Director General, Civil Aviation Authority  
Memorandum No.HQ.CAA/1901/120/AIB  
dated 18th October, 1990 (Appendix "A")

**COMPOSITION OF INVESTIGATION TEAM**

- |     |                                                                                            |                        |
|-----|--------------------------------------------------------------------------------------------|------------------------|
| (a) | Air Cdre (Retd) Abdul Basit<br>Chief Inspector & President<br>Accident Investigation Board | Investigator-in-Charge |
| (b) | Air Cdre Mir Alam Khan<br>Airport Manager<br>Peshawar Airport                              | Investigator           |
| (c) | Mr.Taj Mohammad<br>Sr.Airworthiness Surveyor<br>CAA Islamabad Airport                      | Investigator           |
| (d) | Engr.Shamshad A.Qureshi<br>Airworthiness Surveyor<br>CAA Lahore Airport                    | Investigator           |

**1. AIRCRAFT INFORMATION**

- |                                                                 |   |                                                                              |
|-----------------------------------------------------------------|---|------------------------------------------------------------------------------|
| 1.1.Registration Marking                                        | : | Boeing 707 AP-BBK                                                            |
| 1.2.Aircraft type and Maker's Sl.No.                            | : | B-707-323C, S/N-19576                                                        |
| 1.3.Engine types, airframe positions<br>and maker's serial Nos. | : | ESNO.1 P-668161,<br>ESNO.2 P-642993,<br>ESNO.3 P-642694,<br>ESNO.4 P-643845, |
| 1.4.Certificate of registration<br>No. and validity.            | ; | No.559                                                                       |

- 1.5. Certificate of Airworthiness : No.512/1 (Rev-I)  
No. and date of expiry, and : Validity 21.12.90  
flight manual No.
- 1.6. Certificate of Safety date and : 13.10.1990  
time (GMT) of issue and period  
of validity.
- 1.7. Date of construction of : June, 1968  
airframe.
- 1.8. Name and address of owner : PIAC - Karachi
- 1.9. Gross Weights. Maximum : 331,600 lbs  
permitted by C. of A. for this  
flight, at the time of accident
- 1.10. Loading, Centre of gravity : Empty Weight 135,541.9 lbs  
limits in C of A and centre of : Empty Weight C of G  
gravity position at the time of : 29.565% MAC (FOR DETAILS  
accident and commencement of : TRIM SHEET ATTACHED "H")  
flight.
- 1.11. Airframe history. (Give flying : TAF 57675-57 - 30.10.90  
times since manufacture, last : LDGS. 27257 - 30.10.90  
periodic check. List also : MOD compliance as per A/c  
essential modifications : log book entries already  
completed). : supplied to Airworthiness  
Branch.
- 1.12. Engine history. (Give flying : Service check done on  
time since manufacture, last : 13.10.90 periodic check  
periodic check. List also : done on 30.3.90  
essential modifications : (App 'G<sub>1</sub> - G<sub>4</sub>')  
completed).
- 1.13. Accessory history. (Give details : As per life list  
of operating life and operating  
time since manufacture and  
overhaul).
- 1.14. Defects. (List and remark upon : No.1 Fwd and No.2 Rear  
any technical defects in : tyre burst L.H levelling  
Airframe engines or accessories, : cylinder found extended  
discovered during investigation) : C/F, replaced at Karachi  
levelling cylinder attachment  
bolt found bent, replaced  
at KHI as leaking after  
towing. All 08 main wheels  
replaced (APP.'G<sub>1</sub> - G<sub>4</sub>')

## 2. CREW INFORMATION

### 2.1. Pilot-in-Command

- 2.1.1. Name : Khalid Mujahid Salik
- 2.1.2. Position in the Cockpit : Captain
- 2.1.3. Date of Birth : 16th November, 1947
- 2.1.4. Type of Lic and No. : ALTP No.498
- 2.1.5. Medical date with status : 27.8.90. Fit for ALTP renewal. Next Medical at C.M.B, alongwith report of Cardiologist.
- 2.1.6. Rating:-
- 2.1.6.1. Type(s) held : F-27, B-707/720B, DC-10 and B-707/720B-P-1
- 2.1.6.2. Type current : B-707/720B
- 2.1.6.3. Assist/Flight Instructor Rating. : -
- 2.1.6.4. Flt.Engineer Instructor Rating. : -
- 2.1.6.5. Check Rating : -
- 2.1.7. Flying Experience:-
- 2.1.7.1. Grand Total : 10,472
- 2.1.7.2. Total-in-Command : 6,274
- 2.1.7.3. Total-in-Command/Co-Pilot/Flight Engineer on the type accident/incident occurred : 3,300
- 2.1.8. Where trained : PIA
- 2.1.9. Date of joining the Organization : 4th July, 1974

**2.2. Co-Pilot**

2.2.1. Name : Shehzad Aziz

2.2.2. Position in the Cockpit : First Officer

2.2.3. Date of Birth : 23.3.1968

2.2.4. Type of Lic and No. : ALTP NO.736

2.2.5. Medical date with status : 18.6.90 Fit for renewal of ALTP. Advised to reduce weight.

**2.2.6. Rating:-**

2.2.6.1. Type(s) held : F-27 and B-707

2.2.6.2. Type current : B-707

2.2.6.3. Assist/Flight Instructor Rating. : -

2.2.6.4. Flight Engineer Instructor Rating. : -

2.2.6.5. Check Rating : -

**2.2.7. Flying Experience:-**

2.2.7.1. Grant total : 1889

2.2.7.2. Total-in-Command : 668.00

2.2.7.3. Total-in-Command/Co-Pilot/Flight Engineer on the type accident/incident occurred. : B-707 (B-707 P-2) = 237.00 Rating endorsed on 2.7.90

2.2.8. Where trained : PIA

2.2.9. Date of Joining the Organization : 21.2.1988

/2.3.Flt.Engineer

**2.3. Flight Engineer**

2.3.1. Name : Riazuddin Butt  
 2.3.2. Position in the cockpit : Flight Engineer  
 2.3.3. Date of birth : 15-11-1952  
 2.3.4. Type of Lic and No. : Flight Engineer Lic No.248  
 2.3.5. Medical date with status : 14.12.1989

**2.3.6. Rating:-**

2.3.6.1. Type(s) held : Boeing 707/720B  
 2.3.6.2. Type current : B-707  
 2.3.6.3. Assist/Flight Instructor Rating : -  
 2.3.6.4. Flight Engineer Instructor Rating : N/A  
 2.3.6.5. Check rating : -

**2.3.7. Flying Experience:-**

2.3.7.1. Grand total : 3556 Hrs  
 2.3.7.2. Total-in-Command : -  
 2.3.7.3. Total-in-Command/Co-Pilot/Flight Engineer on the type accident/incident occurred. : 3556 Hrs

2.3.8. Where trained : PIA  
 2.3.9. Date of Joining the Organization. : August 23, 1978

### 3. SUMMARY OF ACCIDENT

3.1. Boeing 707 aircraft Registration Mark AP-BBK was operating Flight PK-326 from Karachi to Peshawar on 17th October, 1990. It landed Peshawar at 1650 hrs LT. After touch down the Pilot reported that the aircraft failed to decelerate below 80 Kts. Maximum thrust reversers were applied and as normal brakes were in-effective the aircraft was stopped by applying emergency brakes in the overrun of Runway 35. Two tyres, No.1 forward and No.2 rear tyres burst during the landing roll which caused the left hand main landing gear boggie to sink in the over run.

3.2. Passengers disembarkation was normal without deploying emergency escape chutes. No injury was caused either to the passengers or crew.

3.3. As proper equipment was not available to remove the aircraft, Peshawar runway remained closed till the evening of 19th October, 1990.

### 4. INJURY TO PERSON(S)

4.1. No injury was caused to any person on board the aircraft or outside as a result of the incident.

### 5. DAMAGE TO AIRCRAFT

5.1. Minor damages were caused to the aircraft:

5.1.1. No.1 Forward & No.2 Rear tyres were found burst.

## 6. OTHER DAMAGES

6.1. Peshawar runway 35 over run was damaged due to sinking of left main landing gear of the aircraft.

## 7. METEOROLOGICAL CONDITION:

7.1. Met report at Appendix."K<sub>1</sub> - K<sub>2</sub>".

## 8. NAVIGATION & LANDING AIDS (VISUAL/NON-VISUAL)

8.1. Aircraft Navigation & Landing aids were available and serviceable at the time of incident. They were not a factor in the incident.

## 9. COMMUNICATIONS (INCLUDING RADIO COMMUNICATION)

9.1. All Communications were available and serviceable at the time of incident.

9.2. These were not a contributory factor in the incident.

## 10. AERODROME AND GROUND FACILITIES

10.1. All Aerodrome and ground facilities were available. Crash fire tenders immediately rush to the scene of incident and were standby for any eventuality.

## 11. FLIGHT RECORDERS

11.1. Flight Data Recorders and cockpit voice recorder were removed from the aircraft and were sent to Karachi for read out.

## 12. WRECKAGE & IMPACT INFORMATION

12.1. The aircraft was found on the over run of 35 with its left main landing gear sunk and No.1 forward and No.2 Rear tyres of leftside gear burst.

## 13. FIRE

13.1. There was no fire during or after the incident.

## 14. SURVIVAL ASPECTS

14.1. It was a survivable incident. No fatal injury was caused to any person on board or outside the aircraft.

## 15. TEST & RESEARCH

15.1. All aircraft equipments were checked and found serviceable.

15.2. Details at para - 17.

## 16. OBSERVATIONS

Nil

## 17. INVESTIGATION

17.1. After receiving information about the incident the Investigator Incharge informed DFO through telex to arrange for the aircrew to be present at Peshawar for

/recording

attempt did not fully succeed as the tow bar broke from the excavator end while turning aircraft towards runway end 17. Wooden planks, metal plates, aircraft tow bar and jacks reached Peshawar in the evening of 18.10.90 by truck. It is worth mentioning here that jacks, tow bar and tug master compatible with Boeing 707 aircraft were not available with PIAC at Peshawar Airport. Tug Master and other tow bar were demanded from Islamabad Airport on 19.10.90. Requisitioned tow bar and tug master did not reach Peshawar till retrieval of aircraft because due to administrative problems as reported. The aircraft had been pulled back as runway 17 end with the help of ropes and the said broken tow bar in the evening of 19.10.90.

17.3. Bleeding of brake system was carried out since emergency brake had been utilised by Pilot. NDT inspection of torsion link attachments pin hole of left gear, both upper trunion attachments, drag strut attachment fitting and levelling cylinder lugs etc was carried out and found satisfactory. Visual inspection of side strut attachment, baver tail attachment, wing to fuselage attachment, I/B flaps and fillet flaps was carried out for any sign of damage or crack resulting from heavy side loads & FOD to flaps but no abnormality was observed. General visual inspection of all engines inlet, exhaust & air intake for any sign of FOD carried out (as reportedly excessive reverse thrust was applied by the Pilot to stop the aircraft) but no abnormality was noticed. However left hand levelling cylinder was found excessively extended on ground due to

sinking. During visual inspection left hand scissor link lower mounting centre bolt nut was found broken. This defect was carried forward to Base because of non-availability of the nut at Peshawar. However the bolt was tightened and safetied. Thorough inspection of the antiskid system for proper functioning and correct indication was carried out and found satisfactory. Stuck thrust reversers of No.1 and No.3 engines were stowed.

- 17.4. Aircraft was taxied to apron by the Chief Pilot B-707 who was detailed to investigate. While taxiing, aircraft brakes system and indication of anti-skid system were checked by the crew and found satisfactory. During aircraft taxi check Chief Engineer, Line Maintenance PIAC Karachi was also on board and witnesses the serviceability of aircraft and its systems. New cockpit voice recorder & flight data recorder were installed, emergency brake was charged with dry nitrogen and checked for leak. However, retraction check of landing gears was not carried at Peshawar. The same was carried forward to Base. Turn around check was carried out & aircraft was released for ferry flight to Karachi. Extra fuel required for ferry flight with landing gear extended was precautionary loaded to over come any eventuality.
- 17.5. The incident of sinking of left hand main landing gear boggie into ground and remaining there under heavy side loads for several hours could have caused hidden/internal damages/cracks

/in retraction

in retraction/extension mechanism of landing gears. During the investigation, another incident to the same aircraft occurred when during take off at Peshawar, right side wheel assembly alongwith axle fell off. The incident is under separate investigation. The part has been sent to Boeing Company for investigation. At this stage it cannot be ascertained whether heavy stresses and load in the first incident could have contributed to the second incident.

17.6. The external check of the aircraft revealed that reversers were out, flaps and spoilers were retracted indicating shut down check list had been carried out by the crew. However it would have helped if flaps and the spoilers had not been retracted indicating that proper landing technique had been followed during the landing.

17.7. Cockpit Voice Recorder which was earlier removed and sent to Karachi for read out indicated that the tape had been running for over two hours. The crew failed to pull out the circuit breaker of the Cockpit Voice Recorder after the emergency which is a laid down procedure. Because of this, important evidence was lost. The sequence of events alongwith reporting of height speeds touch down and check list followed could not be established. Further more the crew should have handed over the aircraft to the airport authority for investigation. On the contrary they put the ground power on and operated various controls of the

aircraft. Whether this act on the part of the crew was intentional or not, however this amounts to tampering with the evidence and thereby causing loss of valuable information to the Investigators.

17.8. When reviewing the ATC transcript, it was found that non standard Radio Transmission procedures were being used by the aircrew. Ground Training School PIAC, where the aircrew is trained, was visited by the Investigators to study the training method for issue of Flight Radio Telephony operators licence. Although the publication for Radio Telephony procedures and phraseology is quite comprehensive and adequate but as PIA is inducting qualified commercial pilots with FRTTO licences, therefore enough emphasis is not given on training pilots to communicate on Radio Transmission. This aspect of the Training needs to be looked into. Cockpit Voice Recorder tapes can also be played and checked for ensuring proper Radio Transmission procedures are being followed by the aircrew.

17.9. While the investigation was in progress, it was noticed with concern, that various employees of PIA, ASF and other agencies were entering the runway without the permission of the ATC.

## 18. DISCUSSION OF EVIDENCE

18.1. **EXTENDED FLARE ON LANDING:** A well planned and properly executed approach, flare, and touch down maximize the landing run for stopping. From the eye witness (Witness No.14), and the statement of the Flight Engineer, the aircraft touch down was around 2500'. PIA SOP for wet runway technique states that the Pilot must aim to touch down at 1000' feet. However if for some reason, the touch down is not possible at 1000' and the Captain feels a go around should be executed. Another important requirement for wet runway landing is a firm and positive touch down. The Flight Data Recorder indicates that the touch down was smooth in this case.

18.2. Understanding the capabilities and limitations of the stopping systems and the tyre/ground interface provides basis for landing distance. Errors or deviations that accumulate in the approach or touch down may be difficult to correct in the subsequent roll out.

/18.3.ROLL OUT

18.3. **ROLL OUT :** The stopping forces available are aerodynamic drag (spoilers & flaps) reverse thrust and wheel brakes. The total force that can be generated is the sum of these three components and depends upon the aircraft's speed, the prevailing runway conditions, pilot technique. Aerodynamic drag and reverse thrust forces are most effective at high speeds. The brake force varies inversely with speed and depends upon the runway condition, the load on the tyre (weight minus lift) and pilot technique.

18.4. On wet runways the total stopping force available is less than on dry runways due to the reduced braking effectiveness. The reversers and the spoilers become more important since they now present a large proportion of the total force capability. Wet runway braking capability is smallest at high speeds and decreases as the speed decreases. With spoilers furnish 80 percent of the high speed stopping force, whereas the brakes furnish 70 percent of the low speed stopping force. Overall, the total wet runway stopping capability is 60% to 80% of the dry runway capability.

- 18.5. Delayed brake initiation also increases the stopping distance. The increase can be critical when combined with other factors such as extended flare, late touch down, in effective use of reverse thrust, and reduced runway friction.
- 18.6. The total landing distance is the sum of the air and ground distances. How the air and ground factors accumulate underscores the need to execute a good approach, touch down and roll out.
- 18.7. Approaching with excess speed, touching down far beyond the target zone (whether caused by excess threshold height or an extended flare), and failing to use spoilers, brakes and reversers effectively are particularly costly on wet and slippery runways. This over run incident was the cause of extended flare and injudicious use of reversers & brakes.
- 18.8. The Pilots action of coming out of reversers at 80 Kts and then redeploying them when finding that deceleration was not taking place made him lose critical time for stopping the aircraft. This normally is a result of not being able to attain sufficient engine speed when reversers are redeployed to produce the force needed to prevent an over-run.
- 18.9. Although the manual says that the Captain should start coming out of the reversers around 80 Kts. However this must be co-related with the distance (remaining runway

left for stopping) and the rate of deceleration taking place at that particular moment. It is extremely important that the Pilot before coming out of reversers must keep these factors in mind Or else it would be a mechanical action on his part. Previously a similar incident occurred where the pilot gave landing to his First Officer who mechanically came out of the reversers at 80 Kts on a wet runway and very nearly caused an over run incident. In this particular instance although the Captain has made a statement that he was making the landing but the hypothesis that the First Officer was making the landing cannot be ruled out.

18.10. The best way to avoid this problem is to plan the landing so that hard braking will not be required in the last portion of the runway. However, if it appears to the Pilot that the aircraft might enter the last phase at high speeds, the reversers should be kept on to complete the final stop.

18.11. **TOUCH DOWN:** The Flight Data Recorder readout shows that vertical acceleration at touch down was virtually negligible (Appendix 'J'). This is indicative of a smooth touch down which is contrary to the company's procedures on any type of conditions of the runway. A positive touch down removes thin film of water and ensures positive contact between the tyres and the runway surface.

/18.12.The

- 18.12. The landing flare should be performed so that the touch down can consume excessive amounts of runway and does not jeopardise directional control capability by failing to provide wheel spin up to establish runway tracking forces.
- 18.13. Lowering the nose as soon as the main wheels touch down helps the aircraft on the ground by placing load on the tyre. This helps to spin up the wheels and establish runway tracking capability. This is extremely important in aircraft equipped with antiskid system. Unless the spin up takes place, and a reference speed signal is produced, the anti-skid will not function and prevent wheel locking consequently protecting the tyres from blowing out. The left gear No.1 forward and No.2 Rear tyre blow out as a result of the Pilot applying brakes harshly thereby locking the wheels.
- 18.14. **BRAKES & ANTI-SKID SYSTEM:** The brakes are the primary means for stopping the aircraft and are applied separately on each side of the aircraft by pressing the respective brake pedal. The pedal force applied is transmitted through cables to valves in the wheel well which converts the force to a hydraulic fluid pressure. This pressure is then routed to the brakes.
- 18.15. Anti-skid system minimize tyres skidding and prevent wheel lock ups during braking. This system prevents tyre blow out, and optimize braking effectiveness under all runway conditions.

- 18.16. In the anti-skid system, the actual speed of the wheel is measured by a transducer in the axle and is compared to a "reference" wheel speed. If the actual wheel speed drops below the reference then a "skid" is detected and the anti-skid system releases the brake pressure to allow the tyre/ground friction to increase the wheel speed. When the anti-skid system detects that the skid has been corrected, it allows re-application of the brake pressure.
- 18.17. An essential elements in the skid control circuit is the reference wheel speed signal. Without this signal, skidding or locked wheels cannot be detected. The reference signal is initially generated by the wheel itself spinning up after touch down. On dry runways this occurs almost instantaneously. However, wheel spin up is slower on slippery runways. If brake pressure is applied prior to wheel spin up, locked wheels can result.
- 18.18. Airplane tests on very slippery wet and flooded runways indicate that prompt wheel spin-up does occur once sufficient load has been placed on the tyres. These tests show that, even on flooded runways, sufficient wheel spin-up to establish an anti-skid reference for skid detection can be expected to occur by the time the spoilers are raised and the nose is lowered. Most anti-skid systems also employ **Touchdown Protection** and **Locked Wheel Protection**.

18.19. In the recent past few over-run incidents had occurred. During investigation the Investigators were unable to retrieve the audio information from the cockpit voice recorder. In-put from the area microphones were of an extremely poor quality making it impossible to read the audio information.

18.20. The problem was taken up with the PIAC. Subsequently recommendations were made in the investigation reports regarding use of boom mikes by the aircrew. If boom mikes are used by the aircrew, important information regarding the accident/incident would be available to the Investigator thus enabling him to establish the cause of the occurrence. As far as the use of boom microphones is concerned UK legislation and article 38(8) does not permit a pilot (or Flight Engineer if any) to use a hand-held microphone on a public transport flight when the aircraft is flying in controlled airspace below flight level 150 or is taking off or landing. FAA regulation for use of boom mikes states that all Pilots will use a hand held microphone on a public transport flight when the aircraft is operating below flight level 180 or during take off and landings.

18.21. The equipment installed on various aircraft PIAC has been checked. However selection of proper boom mikes is under survey/study. A letter was sent to PIAC for a list of aircraft equipped with boom mikes. Reply is placed at Appendix - 'Q'.

## 19. FINDINGS

19.1. The crew members were properly licenced and held valid rating for the type.

19.2. The aircraft B-707 AP-BBK was certificated, equipped and maintained in accordance with CAA requirements.

/\_19.3. The

- 19.3. The aircraft was correctly refueled and properly loaded with passengers and cargo for the subject flight. The C.G. position and landing weight were within limits.
- 19.4. The aircraft landed on runway 35 at 1655 hrs local time. The touch down point was approximately 2500' from the beginning of runway 35.
- 19.5. The aircraft touch down was smooth which is contrary to laid down wet runway landing technique.
19. 6. Towards the end of the landing roll smoke was observed from the tyres of the aircraft.
- 19.7. The Pilot decelerated to 80 Kts, came out of reversers, later on redeployed the reversers till the aircraft came to a full stop.
- 19.8. The aircraft came to stop after crossing the aircraft arresting barrier (down at the time of crossing) and stopped at 130' beyond the barrier.
- 19.9. Two of the left main landing gear tyres i.e. No.1 forward & No.2 Rear, had blown and the left under carriage tyres had sunk in the prepared overshoot upto the rim level.
- 19.10. Two tyres burst was due to application of emergency brakes thereby causing the wheels to lock and subsequently a blow out of the tyres.
- 19.11. The damage on the other tyre were scubbing marks due application of pneumatic brake on rough area & not due to aquaplaning.

/\_19.12.The

- 19.12. The crew was not available at Peshawar (Scene of incident) for investigation & recording of statement.
- 19.13. Brake and anti-skid system were checked after incident and were found serviceable.
- 19.14. There was no history of any defect on brakes on Anti-skid system.
- 19.15. No injury was caused to any passenger and third party.
- 19.16. The runway remained closed for wide bodied aircraft until 1800 hours on 19th October, 1990. During the closure period scheduled flights of B-737, F-27 and DHC-6 were permitted to land.
- 19.17. Crash fire and rescue personnels responded promptly and reached the scene of accident immediately.
- 19.18. Non-standard Radio Telephonic procedure were used.
- 19.19. The crew failed to pull out the circuit breaker of Cockpit Voice Recorder to preserve the information recorded during the incident. Thus valuable evidence was lost.
- 19.20. Boom Mikes are not being used by PIAC Aircrew. As such audio information can not be retrieved from the Cockpit Voice Recorder.
- 19.21. The ASF & PIA staff after the incident were entering the Runway without prior approval from the ATC.

/19.22. It was

19.22. It was difficult to contact various PIA Staff at the airport as they did not have proper communication facilities (Walike Talkie etc).

19.23. While reviewing the PIAC Flight Operations Manual for the purpose of this accident, number of discrepancies and errors were noted and brought to the notice of Director Flight Operations PIAC.

## 20. CAUSE

20.1. From the findings and in consideration of all available evidence, the board is of the opinion that the probable causes for the failure of the aircraft to stop on the runway was that the Pilot-in-Command did not follow the laid down procedures for landing on wet runway as required by the operations manual and PIA standard operating procedures manual of B-707 Aircraft.

## 21. RECOMMENDATIONS

21.1. Action may be taken against the Captain for not following proper procedure for landing on wet runway as per operations & PIA standard operating procedures manual.

21.2. Capt. Khalid Mujahid Salik should be detailed for a Flight Standard training follow by a simulator check on B-707. Further he must undergo under supervision flying for two flight after which he should be flight checked by a CAA appointed Flight Inspector.

21.3. First Officer Shahzad Aziz's FRTTO may be cancelled and he be asked to re-appear in the FRTTO Technical Examination.

- 21.4. Before the advent of the season a proper briefing to be given by the Instructor in the simulator and route checks for wet runway operations.
- 21.5. Over-run at Peshawar should be re-designated as "CLEAR WAY".
- 21.6. Use of Boom Microphones by the Cockpit Crew should be made mandatory below 18,000'.
- 21.7. PIAC should review their Operation Manual and submit for CAA approval. (Rule 251).

IR

APP "B1"



3

WHEEL MARKS CROSSING CENTRE LINE FROM  
RIGHT TO LEFT.



APP "B2"

EMERGENCY BRAKE HANDLE WAS OPERATED  
(WIRE LOCK BROKEN)

APP. "B3"



PNEUMATIC BRAKE PRESSURE INDICATOR  
SHOWING 700 P.S.I.

APP. "B4"



GENERAL VIEW OF COCKPIT



APP. "B5"

5

THRUST REVERSER OF NO.3 ENGINE STUCK IN  
EXTENDED POSITION. NO.1 ENGINE WAS ALSO STUCK  
BUT NOT PHOTOGRAPHED.



APP. "B6"

NOSE-WHEEL STEERED TO APPROX. 40° ANGLE.

6



APP. B7

PORT MAIN LANDING GEAR SUNK INTO GROUND  
APPROX. 6" TO 8"



APP. B8

REAR NO. 2 TYRE



APP 'B9'

7

FORWARD NO.1 TYRE ALREADY REMOVED ON 17.10.90  
SHOWING DAMAGE DUE TO EXCESSIVE BRAKING.



APP 'B10'

PORT MAIN LANDING GEAR WITH FORWARD  
NO.1 TYRE REPLACED.