

INVESTIGATION REPORT ON THE CIRCUMSTANCES OF
THE INFLIGHT INCIDENT WHICH OCCURRED AT 0634 Z
ON 6TH FEBRUARY, 1982 INVOLVING P.I.A.C.
AIRCRAFT D.C. 10-30 REG. MK. AP-AXC WHILST
OPERATING SCHEDULED PASSENGER FLIGHT PK 303
BETWEEN LAHORE AND KARACHI.

Reference IB/7-4/82.

1. Authority: Director General Civil Aviation(Memorandum
No. IB/7-4/82 Karachi 7th February, 1982) Appendix "A"

2. Basic Information

2.1. Type of Occurrence:	Navigational error
2.2. Place of Occurrence:	Aircraft entered Indian air space entering at co-ordinates 3004 N 7348 E and exit at 2941 N 7320E. (See Appendix "B")
2.3. Time of Occurrence:	0639Z (1139 P.S.T)
2.4. Light condition:	Daylight.
2.5. Airfield of last take off:	Lahore Airport.
2.6. Type of Flight:	Scheduled passenger flight. Flight No. Pk.303 from Lahore to Karachi.
2.7. Type of Aircraft.	DC 10-30
2.8. Weather	Fine. Visibility good. (Weather not a factor)

3. Cockpit Crew Information

3.1. Pilot in Command:	Captain Arif Hayat
3.2. Licence:	A.L.T.P. No. 251/2 (Valid)
3.3. Flying Experience:	

3.3.1. Total Flying Experience:	8679.20	hrs
3.3.2. Total in Command:	3961:44	hrs
3.3.3. Total in Command DC 10:	821:22	hrs
3.3.4. Co-pilot on DC 10:	1038:30	hrs
3.3.5. Flying preceding 90 days:	75:18	hrs

Contd....P/2....

3.4. Co-pilot: First Officer Samir Gul
 3.5. Licence: ALTP No. 525 (Valid)
 3.6. Flying Experience:
 3.6.1. Total Flying Experience: 3310:13 hrs
 3.6.2. Total in Command: 819:40 hrs
 3.6.3. Co-pilot on DC 10: 473:03 hrs
 3.6.4. Flying preceding 90 days: 111:03 hrs
 3.7. Flight Engineer: Shafqat Hussain Jaffry
 3.8. Licence: F/E Licence No. 96(Valid)
 3.9. Flying Experience:
 3.9.1. Total Flying Experience: 6849:39 hrs
 3.9.2. Experience on DC 10: 658:41 hrs
 3.9.3. Flying preceding 90 days: 92:15 hrs

4. Passengers: 250
 5. Other Crew: 11 Cabin Crew plus one supernumery cockpit crew.
 6. AIRCRAFT INFORMATION:
 6.1. Aircraft Type and Manufacturers Serial Number: DC 10-30 S. No. 46931
 6.2. Registration: AP-AXC
 6.3. Owner P.I.A.C.
 6.4. C of A No. 406 (Valid)
 6.5. C of R No. 453 (Valid)
 6.6. C of M (Valid)
 6.7. Airframe total hours 20947.49 hrs
 6.8. Engines: GE. C.F. 6-50-C
 6.8.1. Type:
 No.1 No.2 No.3.
 6.8.2. Serial Number: 455-339 455-342 455-421
 6.8.3. Total operating 14581:40 Hrs 13867.40hrs 10747.02 hrs
 Hours since new:
 6.8.4. Operating Hours
 since last overhaul: ON CONDITION
 7. Navigation Aids: I.N.S.; ADF; VOR.
 8. Communication: V.H.F.; H.F.; Selcal with company.

9. Brief Account of Occurrence:

On 6th February 1982 DC 10-30 Reg. Mk AP-AXC operated scheduled passenger flight No. PK 303 from Lahore to Karachi. The flight departed Lahore Airport at 0620Z (1120 P.S.T.) and was cleared for F 350 via LEMOM - MOLTA - RK - NSH - KAR. The aircraft established first contact with F.I.C. Lahore at 0635 Z (1135 hrs P.S.T.) on VHF and reported having checked LEMOM at 0625Z (1125 hrs P.S.T.) Estimating MOLTA at 0642Z (1142 hrs P.S.T.) RK at 0703 Z (1203 hrs P.S.T.) and Karachi at 0745Z (1245 hrs P.S.T.) climbing to Flight Level 350. At 0639 Z (1139 hrs P.S.T) S.O.C. Sector One informed the Duty Flight Information Officer F.I.C Lahore that PK 303 had entered Indian territory and that the aircraft should turn right onto a heading of 270 degrees immediately. The D.F.I.O at this time tried to establish contact with PK 303 on HF and VHF but there was no response from the aircraft. Two minutes later at 0641 Z (1141 hrs P.S.T.) PK 303 reported MOLTA on V.H.F channel 124.1 Mhz at Flight Level 350 estimating RK at 0703 Z (1203 hrs P.S.T.) The flight was handed over to Karachi Control and subsequently landed at Karachi Airport at 0754 Z (1254 hrs P.S.T.). **Without** further incident.

I N V E S T I G A T I O N
=====

10. Witnesses.

- 10.1. A report was received from S.A.T.O. Lahore concerning the details of the incident. Further information concerning time of take off and entry and exit co-ordinates were obtained from S.A.T.O. Lahore on telephone. (Appendix "C")
- 10.2. The Pilot in Command of the aircraft Captain Arif Hayat was interviewed and his statement concerning the incident was recorded (Appendix "D")
- 10.3. Information pertaining to flying experience of the operating crew was obtained from P.I.A and Flight Inspection. The aircraft information was obtained through Controller Aeronautical Inspection, Karachi Airport.

Contd.... p/4...

A N A L Y S I S

11. Circumstances: Considering the available evidence it is obvious that as the result of incorrect cockpit procedures and the desire to depart without delay resulted in an error in navigation during a period of some twenty minutes after take off. This error in navigation resulted in the aircraft entering Indian airspace and exiting after approximately four minutes (See Appendix "B")
12. From the statement of the Pilot in Command, it is obvious that the problem occurred as the result of a number of failures by the flight crew. Firstly during the pre-start checks the First Officer failed to select the align mode on the three Inertial Navigation Systems (I.N.S.) The Flight Engineer also bears some responsibility for this failure. The Captain discovered this discrepancy whilst doing his checks, and to avoid further delay selected the Attitude Reference on the I.N.S. The Captain failed to slave the compass switch to align the instruments with the magnetic compass.
13. It may be mentioned here that it is not absolutely necessary to use the I.N.S. for navigation since a number of other aircraft operate the same route without this equipment. However, had the I.N.S been correctly set then this incident would not have occurred. It was noted that the Captain was attempting to avoid further delay and has stated that the flight departed saving some delay of the previous flight. This would indicate a measure of haste which probably contributed to the failure of the Captain to slave the compass in order to obtain a correct indication in the cockpit.
14. In the event , after take off, the co-pilot flying, the Captain gave the Co-pilot a heading selection of 260 degrees and armed the V.O.R as requested. After a few minutes the Captain noticed that they were not closing with the radial as expected and started checking with VOR and ADF (LHE - MUX). At no stage did the aircraft receive communication from the ground that they were off track and

Contd....P/5....

entering Indian airspace. It has been noted that S.O.C informed D.F.I.O. at 0639 Z (1139 hrs P.S.T.) that PK 303 had entered Indian territory. At this time the aircraft had been flying for 19 minutes following a track 33 degrees south of the track required. The reaction of the S.O.C to the situation was slow to say the least. Had they reacted earlier it is possible that the violation of Indian airspace could have been avoided.

15. Be that as it may, it was the Captain, through his checks of cross radials to establish his position, who discovered that his RMI was not giving the correct reading. He subsequently corrected the situation by slaving the compass switch and aligning his R.M.I with the magnetic compass, after which stage the flight proceeded normally to Karachi.
16. The Captain has been straight forward and candid in his report on the circumstances of the incident, and has made no effort to cover up his own mistakes. It is believed that in the interests of Air Safety such an attitude by Flight Crew and others who may be involved should be encouraged.

F I N D I N G S

17. From the foregoing investigation and analysis the Investigators arrive at the following findings:-
 - 17.1. DC 10 Reg. Mk. AP-AXC was properly maintained and certificated. In the incident no discrepancy of the aircraft contributed, the aircraft and systems were serviceable.
 - 17.2. The Cockpit crew were properly certificated and had valid ratings for operation of the D.C. 10. They were adequately experienced.
 - 17.3. Ground radio navigation aids were operating normally and were not a factor in this incident.
 - 17.4. No discrepancy was reported on airborne navigational equipment.

- 17.5. During pre start preparation the Co-pilot failed to set the Inertial Navigation Systems correctly.
- 17.6. The flight had been delayed and the Captain was concerned about making up time and avoiding further delay.
- 17.7. The Captain during his checks found the discrepancy in the setting of the I.N.S. but elected to proceed using I.N.S for attitude reference only since setting the I.N.S would have resulted in a delay of approximately 15 minutes.
- 17.8. The Captain failed to ensure that the cockpit indicators were aligned with the magnetic compass.
- 17.9. After take off the heading of 260 degrees was selected to intercept the radial 229 degrees which was the desired track.
- 17.10. Since the R.M.I was not aligned with the magnetic compass, the aircraft made good a track of 196 degrees which was 64 degrees to the left of the selected heading.
- 17.11. At an undetermined time after the heading was selected, the Captain noted that he was not closing with the intended radial and commenced checking, subsequently discovering the cause of the error and correcting it. In this time the aircraft had entered Indian airspace for an approximate period of four minutes before exiting.
- 17.12. At 0639Z (1139 hrs P.S.T.) the S.O.C Sector No.1 reported to the Duty Flight Information Officer, Lahore F.I.C. that the flight had entered Indian airspace and should turn right onto a heading of 270 degrees immediately. The D.F.I.O unsuccessfully attempted to establish radio contact with the aircraft. Some two minutes later the aircraft contacted F.I.C on VHF reporting his position, which at that stage was in Pakistan territory.
- 17.13. Though Pk 303 had been making good a track 33 degrees to the left of the normal track for a period of some 18 to 19 minutes and

and was likely to cross the border, the first report to F.I.C was made only after the aircraft had entered Indian airspace.

17.14. The Captain of the aircraft was candid during his report on the circumstances of the incident and made no effort to cloud the issue. Such an attitude must be encouraged in the interests of Flight Safety.

17.15. Weather was not a factor in this incident and daylight conditions prevailed.

18. C A U S E

The incident occurred as the result of haste in an attempt to avoid delay, and failure to cross check instruments in the early stages of the flight, which would have resulted in early corrective action. Failure by S.O.C. to react earlier is contributory.

R E C O M M E N D A T I O N S
=====

19. From the foregoing the following recommendations are made:-

19.1. Where navigation aids are installed on aircraft, these should be invariably required to be used.

19.2. S.O.C be requested to react earlier in the event they observe an aircraft heading for the border, special so in the case of scheduled flights where the routes are known, so corrective action can be taken well in time.

19.3. Flight crew be reminded of the necessity to cross check navigational aids soon after setting course to ensure that are indicating correctly and the aircraft is making good the desired track.

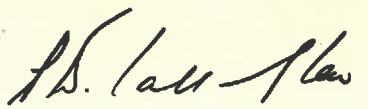
19.4. Where safety of flight is involved, commercial interests

should not over-ride proper procedures.

- 19.5. Action under the rules against the Pilot in Command and the Co-Pilot for their lapse be considered.
- 19.6. The attitude of the Captain in being honest and candid whilst reporting the circumstances be taken into consideration whilst deciding on sanctions.



(CAPTAIN FARMANUDDIN)
INVESTIGATOR



(P. D. CALLAGHAN)
INVESTIGATOR IN CHARGE

DATE: 8TH FEBRUARY, 1982.

* * * * *

OBSERVATIONS OF THE DIRECTOR GENERAL

I have gone through the foregoing Investigation Report and agree with the findings of the Investigation Board.

2. I also agree with the recommendation at Para 19.

3. As a result of the above enquiry the following actions are to be taken by PIA Management:-

(a) Ref. Para 19.1:

Suitable instructions be issued to ensure that Navigational Aids installed are invariably used by PIA aircraft.

(b) Ref. Para 19.3:

The Cockpit check should be modified to include proper procedures to be followed for cross checking of Navigational Aids after setting course. In the event INS is to be used the proper handling of this system should be ensured without taking into consideration any commercial aspects.

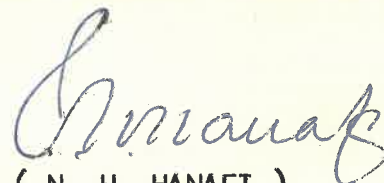
(c) Ref. Para 19.5.

Taking into consideration the outrightness and the honesty of Captain Arif Hayat holder of ALTP No. 252/2 and his honesty in admitting his fault and in consideration of the fact that an error has been committed by the crew on board the aircraft, the Captain be removed from the command of DC-10 for a period not exceeding 30 days and the First Officer Sameer Gul holder of ALTP No. 525 from First Officer on DC-10 for a period not exceeding 30 days.

4. Director Aerodromes, Department of Civil Aviation to take the following action immediately:

Ref., Para 19.2:

Air Headquarters be requested to institute a procedure whereby domestic services which operate on specified routes, whenever any deviation from the specified route is observed or seen by Radar, the aircraft concerned be advised immediately so as to prevent recurrence of similar incidents. Such an assistance from Air Headquarters will avoid development of such a situation.



(N. H. HANAFI)

✓ DIRECTOR GENERAL OF CIVIL AVIATION
Feb. 9, 1982.