

FINAL INVESTIGATION REPORT



INVESTIGATION INTO THE SERIOUS INCIDENT OF TCAS – RA
REPORTED BY M/S AIR ASIA XRAY, FLIGHT NO. XAX776 A333
REG NO. 9MXXY (KULALUMPUR - TEHRAN) ON
07TH FEBRUARY, 2017

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SYNOPSIS

On 07th February, 2017, the serious incident of TCAS-RA took place between M/s Air Asia Airline Flight No. XAX776, A333, Reg. No. 9MXXY operating from Kuala Lumpur to Tehran descending from FL400 to FL380 and M/s Pakistan International Airline (PIAC) Flight No. PIA238, A320, Reg. No. APBLT operating from Abu-Dhabi to Karachi maintaining FL390 at 30 NM South of Panjgur. The incident was reported in daily IOU report for the period 070500LT TO 080500LT February, 2017 (**Appendix 'A'**) and Mandatory Occurrence Report (MOR) by the operator (**Appendix 'B'**). Notification was issued vide letter no. HQCAA/1904/40/105/SIB/085 dated 13th February, 2017 (**Appendix 'C'**) and Memorandum vide letter No. HQCAA/1904/40/105/SIB/ dated 15th February, 2017 (**Appendix 'D'**).

All available evidences were analyzed at SIB. Significant findings and recommendations of SIB are as under:-

1. FACTUAL INFORMATION

- 1.1 **History of Flights.** M/S Air Asia Airline Flight No. XAX776, A333, Reg. No. 9MXXY operating from Kuala Lumpur to Tehran descending from FL400 to FL380. M/s PIAC Flight No. PIA238, A320, Reg. No. APBLT operating from Abu-Dhabi to Karachi maintaining FL390.
- 1.2 **Injuries to person(s).** No injury was reported on board to any of the passengers.
- 1.3 **Damage to Aircraft.** No damage occurred due to this incident to any aircraft.
- 1.4 **Flight Crew Information.** Not applicable.
- 1.5 **Aircraft Information:**
 - 1.5.1 **M/s Air Asia Airline (XAX776)**

Aircraft Make	:	Airbus
Type of Aircraft	:	A333
Aircraft Registration	:	9MXXY
Sector	:	Kuala Lumpur - Tehran
Flight Conditions	:	Descending
Altitude	:	FL380
 - 1.5.2 **M/s Pakistan International Airline (PIA238)**

Aircraft Make	:	Airbus
Type of Aircraft	:	A320
Aircraft Registration	:	APBLT
Sector	:	Abu-Dhabi - Karachi
Flight Conditions	:	Maintaining Flight Level
Altitude	:	FL390

- 1.6 **Meteorological Information.** No significant weather was reported at operating altitude at the time of occurrence.
- 1.7 **ATC Tape Extracts.** Audio / video tape extracts (**Appendix 'E' & 'F'**) were obtained for detailed analysis.
- 1.8 **Resumption of Navigation by Aircraft.** Post occurrence, the aircraft continued for their respective destination.
- 1.9 **Sequence of Events.**
- 1.9.1 At 17:01:03 UTC XAX776 contacted Karachi Area Radar West, Area Radar Controller advised XAX776 to follow Flight Plan route and to report "KEBUD".
 - 1.9.2 At 17:16:32 UTC Karachi Area Radar Controller advised XAX776 to expect FL380 before position "PG" due to crossing traffic at FL400, which was acknowledged by XAX776.
 - 1.9.3 At 17:20:02 UTC PIA238 contacted Karachi Area West at position "ASVIB", In response Karachi Radar West Controller identified the aircraft and cleared aircraft to proceed direct to position "KA", which was acknowledged by PIA238.
 - 1.9.4 At 17:24:12 UTC Area Radar West controller advised XAX776 to descend and maintain FL380 and proceed direct to "KEBUD", which was acknowledged by XAX776.
 - 1.9.5 At 17:25:16 UTC Radar West Controller advised XAX776 to turn right Heading 015 degree to which XAX776 inquired from Radar Controller to confirm heading 015? Radar Controller replied in affirmative.
 - 1.9.6 At 17:25:29 UTC Radar West Controller advised PIA238 to turn left Heading 180, which PIA238 acknowledged as "descend FL180". Upon which Radar West Controller advised XAX776 to stop descend FL390, now. Who was passing FL 390 at that time.
 - 1.9.7 At 17:25:52 Radar West Controller advised XAX776 to expedite reaching FL380 due reciprocal traffic 30NM maintaining FL390. In response XAX776 intimated maintaining FL390 and inquired about right heading 015degree.
 - 1.9.8 At 17:26:11 UTC Radar West Controller advised XAX776 to turn left Heading 270 and descend FL380, **up on which XAX776 intimated unreadable.**
 - 1.9.9 At 17:26:39 UTC Radar Controller advised PIA238 to turn left heading 070 degree which was not acknowledged by the aircraft.
 - 1.9.10 "Descend FL380 now", call was repeated twice by Radar Controller along with position and level of reciprocal traffic and relayed twice by PIA238 then acknowledged by XAX776 at 17:27:21 UTC.
 - 1.9.11 At 17:27:29 UTC Radar West Controller advised PIA238 to climb FL395 immediately, in response **PIA238 intimated Unable.**

2. FINDINGS

- 2.1 Both Area West Controllers (Radar and Planner) were well aware of traffic situation and planned to give descend to XAX776 from FL400 to FL380 due to level confliction with AXB115 at FL400 over position "PG", but Duty Area Radar West Controller gave direct routing to both flights without visualizing conflicting situation.
- 2.2 Area Radar West Controller advised XAX776 to descend from FL400 to FL380 when it was 55NM from PIA238.
- 2.3 Soon after realizing the situation Area Radar Controller initiated a number of options in the form of ATC Instructions to resolve the situation which could not be implemented due to poor performance of EVHF128.35 MHZ in the area.
- 2.4 From 17:25:16 UTC to 17:26:56 UTC calls transmitted from Ground to air were not received correctly at pilot end and were unreadable which caused lot of confusion.
- 2.5 Radar West Controller advised XAX776 at 17:26:11 UTC to turn left Heading 270 degree and descend FL380, which was not readable with XAX776. Calls were repeated twice by Radar Controller along with position and level of reciprocal traffic and relayed twice by PIA238 then acknowledged by XAX776 at 17:27:21 UTC.
- 2.6 Radar West Controller advised PIA238 at 17:27:29 UTC to climb FL395 immediately, for which PIA238 showed "inability to climb".
- 2.7 Capt. of PIA238 intimated in his statement that if (Unable to climb) was the call given by PIA238, Aircraft performance could be the contributing factor (recommended Maximum Altitude) Restriction.
- 2.8 As per Radar Video tracing:
 - 2.8.1 Both aircraft were 55NM apart on reciprocal track, when XAX776 was given descend from FL400 to FL380.
 - 2.8.2 XAX776 reached and maintained FL390, when both aircraft were 36 NM apart on reciprocal track.
 - 2.8.3 XAX776 left FL390 at 17:27:31 UTC and descended up to FL370 without clearance from ATC.
 - 2.8.4 When standard vertical separation of 1000ft was achieved, both aircraft were 5NM apart on reciprocal track.
 - 2.8.5 Both aircraft crossed each other at 17:28:01 UTC with 2000ft vertical separation.
 - 2.8.6 ATC assigned level was busted by 1000ft (may be due to high vertical speed maintained by XAX776).
 - 2.8.7 Upon query XAX776 intimated Area Radar West at 17:35:19 UTC about filing of ATC report for TCAS- RA.
 - 2.8.8 Area Radar Controller gave direct routing to both flights without considering conflicting situation due to which both aircraft were on reciprocal track.

2.8.9 Area Radar Controller used Non standard R/T, wrong Call sign, wrong turns which created confusion.

2.8.10 Both aircraft reported readability problem.

2.9 Cause of Occurrence

2.9.1 Incident occurred due to:

2.9.1.1 The performance of EVHF in the area was not good in particular; it had non clarity of voice communication.

2.9.1.2 Area Radar Controller gave direct routing to both flights without considering conflicting situation and used non standard R/T phraseology, wrong Call sign, wrong turns which created confusion.

3. SAFETY RECOMMENDATIONS

3.1 CAA Pakistan to investigate the unsatisfactory performance of EVHF 128.35 MHZ in the concerned area during the incident and report be submitted to SIB by 22nd May, 2017.

3.2 The involved Duty Area Radar Controller (West) is to be given requisite recurrent training for Standard R/T phraseology and handling emergency situations prior to re-evaluation for clearance to undertake independent duties.