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FINAL INVESTIGATION REPORT



INCIDENT OF TCAS-RA REPORTED BY ABQ271, A321
REG. AP-BMN (JEDDAH - ISLAMABAD) ON
17TH SEPTEMBER, 2016

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SYNOPSIS

On 17th September, 2016 M/s Air Blue Flight No. ABQ271 (A321, Reg. No. AP-BMN) from Jeddah to Islamabad while descending from FL270 to FL210 at position 25 NM short of 'FATEH' reported TCAS-RA due reciprocal traffic. The reciprocal traffic was M/s Pakistan International Air Line Flight No. PIA785 (B772, Reg. No. AP-BHX) from Islamabad to London, after airborne at 0449 (UTC) was climbing FL200.

The incident was reported through Mandatory Occurrence Report (MOR) by the Operator (Appendix 'A'). All available evidences along with Pakistan Air Force (PAF) investigation report (Appendix 'B') were analyzed at Safety Investigation Board (SIB). Significant finding and recommendations of SIB are as under:-

1. FACTUAL INFORMATION

1.1 **History of Flights.** M/s Air Blue Flight No. ABQ271 (A321, Reg. No. AP-BMN) from Jeddah to Islamabad and M/s Pakistan International Airline Flight No. PIA785 (B772, Reg. No. AP-BHX) from Islamabad to London were operating on routine schedule flights.

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.**

1.4.1. **M/s Air Blue (ABQ271)**

Aircraft Make	:	Airbus
Type of Aircraft	:	321
Aircraft Registration	:	AP-BMN
Sector	:	OEJN - OPRN
Flight Conditions	:	DESCENDING
Altitude	:	FL210

1.4.2. **M/s Pakistan International Airline (PIA785)**

Aircraft Make	:	Boeing
Type of Aircraft	:	772
Aircraft Registration	:	AP-BHX
Sector	:	OPRN - EGLL
Flight Conditions	:	CLIMBING
Altitude	:	FL200

1.4 **Meteorological Information.** No significant weather was reported at operating altitude at the time of occurrence. Conditions were IMC.

1.5 **ATC Tape Extracts.** Audio tape extracts and Radar per sweep data (Appendix 'C' & 'D') were obtained for detailed analysis.

1.6 **Resumption of Navigation by Aircraft.** Post occurrence, the aircraft continued for their respective destination.

1.7 **Sequence of Events.**

1.7.1 At 04:52:15 (UTC) Cherat Controller cleared ABQ271 to initially descend to FL210 which was acknowledged by ABQ271.

- 1.7.2 At 04:53:07 (UTC) Cherat controller cleared PIA785 to continue climb FL200 and passed traffic information of reciprocal traffic which was acknowledged by PIA785.
- 1.7.3 At 04:57:06 (UTC) ABQ271 reported TCAS-RA at about 25NM short of FATEH.
- 1.7.4 At 04:57:30 (UTC) PIA785 also confirmed RA, while maintaining FL200.

2. FINDINGS

- 2.1. Flights were on reciprocal track on route J139 between position FATEH and JABBAR.
- 2.2. As per Radar per sweep data:
- 2.2.1. ABQ271 while descending through last 1000ft of the assigned altitude was observed maintaining rate of descend 1000 - 1200ft/m.
 - 2.2.2. ABQ271 descended up to FL211 and initiated climb on TCAS till FL213 and then descended.
 - 2.2.3. PIA785 maintained rate of climb more than 1600ft/m during last 1000ft of assigned altitude.
 - 2.2.4. At the time of crossing both aircraft were 1200ft vertically apart.
- 2.3. Duty Cherat Controller provided standard separation by assigning FL210 to ABQ271 and FL200 to PIA785.
- 2.4. Both aircraft crossed each other with more than standard separation.
- 2.5. Traffic information was passed to both the aircraft.
- 2.6. No other known traffic was observed on Islamabad radar in proximity of ABQ271 at the time of TCAS-RA.
- 2.7. **Cause Of Occurrence.**
- 2.7.1. Probable cause of TCAS-RA incident is due to non compliance of recommended procedures by PIA785 on vertical speed limitation during last 1000ft of assigned level as mentioned in flight Standard letter no. and Doc 9863.

3. SAFETY RECOMMENDATIONS

- 3.1. M/s Pakistan International Airline to thoroughly brief her cockpit crew for strict adherence to the recommended procedure in respect of descent / climb limitation during last 1000ft while approaching the assigned altitude, as mentioned in Flight Standard letter no. HQCAA/1076/142/FSAC/1247 dated 24th February, 2016 and ICAO Doc 9863.
- 3.2. All Operators to ensure compliance of the recommended procedure in respect of descent / climb limitation during last 1000 ft of the assigned altitude, as mentioned in Flight Standard letter no. HQCAA/1076/142/FSAC/1247 dated 24th February, 2016 and ICAO Doc 9863.