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Air Accident Investigation Authority

Loss of Separation

Serious Incident Investigation Preliminary Report and Public Notice

**Airbus A330-343 P2F (Registration Mark TC-MCN)
and Boeing 777-200F (Registration Mark VP-BMU)
at Hong Kong International Airport
on 27 February 2025**

PLR-2025-01

1. Purpose

- (1) This preliminary report provides factual information established in the investigation's early evidence collection phase. Its purpose is to provide timely information to both the aviation industry and the general public.
- (2) This report is released in accordance with the Hong Kong Civil Aviation (Investigation of Accidents) Regulations (Cap. 448B) and the requirements of Annex 13 to the Convention on International Civil Aviation – Aircraft Accident and Incident Investigation (ICAO Annex 13).
- (3) The Air Accident Investigation Authority (AAIA)'s understanding of the serious incident will be enhanced as the investigation progresses and potential new evidence becomes available. As such, no analysis or findings are included in this report.
- (4) Should safety recommendations be considered necessary during the course of the investigation, they will be promulgated to the parties concerned immediately before the final Investigation Report is published.
- (5) The Investigation Report will be released at the conclusion of the investigation, which will provide a comprehensive overview of this serious incident, its causes, and any recommendations to improve air safety.

2. General Details

2.1 Occurrence details

Date and time (see Note):	27 February 2025, 06:59 to 07:02 hours
Occurrence category:	Serious Incident
ICAO occurrence type:	Loss of Separation
Location:	Hong Kong International Airport (VHHH)
Position:	22°18'32"N 113°54'53"E

Note: All times are in Hong Kong local time, which is Coordinated Universal Time (UTC) plus eight hours.

2.2 Pilot in Command details

2.2.1 Aircraft 1

Licence details:	Directorate General of Civil Aviation of Turkey Airline Transport Pilot License
Total all types	6,777.20 hours
Command time on type (Airbus A330)	1,817.35 hours

2.2.2 Aircraft 2

Licence details:	Azerbaijan Civil Aviation Authority Airline Transport Pilot License
Total all types	11,403 hours
Command time on type (Boeing 777)	1,651.23 hours

2.3 Aircraft details

2.3.1 Aircraft 1

Manufacturer and model:	Airbus A330-343 P2F
Registration:	Turkey, TC-MCN
Serial number:	MSN889
Year of Manufacture:	2007

Number / type of engines:	Two Rolls-Royce Trent 772B-60 engines	
Operator:	MNG Airlines	
Type of Operation:	Cargo flight	
Departure:	Hong Kong International Airport (VHHH)	
Destination:	Türkmenabat International Airport (UTAV) in Turkmenistan	
Persons on board:	Crew – 5	Passengers – 0
Injuries:	Crew – 0	Passengers – 0
Aircraft damage (primary):	Nil	

2.3.2 Aircraft 2

Manufacturer and model:	Boeing 777-200F	
Registration:	Bermuda (United Kingdom), VP-BMU	
Serial number:	MSN67455	
Year of Manufacture:	2023	
Number / type of engines:	Two General Electric GE90-115B engines	
Operator:	Silk Way West Airlines	
Type of Operation:	Cargo flight	
Departure:	Hong Kong International Airport (VHHH)	
Destination:	Heydar Aliyev International Airport in Baku (UBBB), Azerbaijan	
Persons on board:	Crew – 5	Passengers – 0
Injuries:	Crew – 0	Passengers – 0
Aircraft damage (primary):	Nil	

3. Synopsis

- (1) The Loss of Separation Incident occurred on 27 February 2025 between two freighters taking off from Hong Kong International Airport (VHHH). The aircraft involved were an Airbus A330-343 P2F (Aircraft 1), registration mark TC-MCN, operated by MNG Airlines to Türkmenabat International Airport (UTAV) in Turkmenistan, and a Boeing 777-200F (Aircraft 2), registration mark VP-BMU, operated by Silk Way West Airlines to Heydar Aliyev International Airport in Baku (UBBB), Azerbaijan.
- (2) At 06:59:09, Aircraft 1 was cleared for takeoff from Runway (RWY) 07C (on the Centre Runway) on Standard Instrument Departure (SID) BEKOL 1Y. The Centre Runway was under the control of the Air Movement Controller (AMM) in the North Control Tower.
- (3) At 06:59:22, Aircraft 2 was cleared for takeoff from RWY 07R (on the South Runway) on SID BEKOL 1X. The South Runway was under the control of the Air Movement Controller (AMS) in the South Control Tower. At that moment, Aircraft 1 was commencing takeoff from RWY 07C.
- (4) As the departure tracks of Aircraft 1 (on SID BEKOL 1Y) and Aircraft 2 (on SID BEKOL 1X) were converging tracks, Air Traffic Control (ATC) procedures for dependent departure operations¹ was applicable. In this case, the requirement was for ATC to provide a 3-minute (180-second) minimum separation between a RWY 07R departure (i.e. Aircraft 2) following a RWY 07C departure (i.e. Aircraft 1). The data indicated the two aircraft concerned were cleared for takeoff only 13 seconds apart.
- (5) At 06:59:57, on noticing the occurrence of the incident, the Aerodrome Supervisor of the South Control Tower (S-ASU), called the Aerodrome Supervisor of the North Control Tower (N-ASU) to coordinate remedial actions. The agreement was to instruct Aircraft 1 to expedite its climb to 5,000 feet (ft) and to restrict the climb limit of Aircraft 2 to 3,000 ft. The two aircraft involved were given the respective ATC instructions accordingly. Both aircraft were provided with traffic information and both aircraft reported visual contact with the other aircraft at the time.
- (6) At 07:01:48, the Short Term Conflict Alert (STCA)² on the Air Traffic Management System (ATMS) issued an alarm to alert ATC of the traffic conflict between Aircraft 1 and Aircraft 2.

¹ This is in accordance with ATC procedures in use since the opening of the Hong Kong International Airport.

² The Short Term Conflict Alert System (STCA) provides controllers with a warning when a potential conflict exists so that corrective action can be taken to resolve the situation.

- (7) Shortly after the STCA, at 07:02:07, Aircraft 2 advised ATC (AMS) that the onboard Airborne Collision Avoidance System (ACAS)³ issued a Resolution Advisory (RA)⁴ to descend from 3,000 ft, which Aircraft 2 followed.
- (8) Aircraft 1 received an ACAS Traffic Advisory (TA)⁵ alert when climbing through 2,500 ft. As it was an advisory alert, Aircraft 1 continued with the ATC instruction received.
- (9) Based on preliminary data on hand, the closest spacing between the two aircraft was approximately 0.4 NM horizontally and 100 ft vertically, with the aircraft on converging headings.
- (10) At 07:02:37, Aircraft 1 was climbing through 3,500 ft while Aircraft 2 was descending through 2,500 ft, a vertical separation of 1,000 ft between the two aircraft was re-established.

4. Instigation of Investigation

- (1) The AAIA received information on the incident from the Civil Aviation Department (CAD). After validating the collected information, the Chief Inspector (CI) of the AAIA classified this occurrence as a Serious Incident, and instigated an investigation into its circumstances, causes and contributing factors, in accordance with Cap. 448B and the requirements of ICAO Annex 13.
- (2) In accordance with ICAO Standards, the States of Registry, the States of the Operator, the States of Design and the States of Manufacture of the aircraft involved have been notified, namely:
 - the Transport Safety Investigation Center of Turkey (representing the State of Registry and the State of the Operator of Aircraft 1);
 - the Bermuda Civil Aviation Authority (representing the State of Registry of Aircraft 2);
 - the Air Accidents Investigation Branch (AAIB) of the United Kingdom (UK) (as required by the Bermuda Civil Aviation Authority for aircraft accidents/serious incidents involving a Bermuda registered aircraft);

³ Airborne collision avoidance system (ACAS). An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

⁴ A Resolution Advisory (RA) is an ACAS indication given to the flight crew recommending: (a) a manoeuvre intended to provide separation from all threats; or (b) a manoeuvre restriction intended to maintain existing separation.

⁵ A Traffic Advisory (TA) is an ACAS indication given to the flight crew that a certain intruder is a potential threat.

- the AIG Team of the Azerbaijan's Civil Aviation Authority (representing the State of the Operator of Aircraft 2);
 - the Bureau of Enquiry and Analysis for Civil Aviation Safety (BEA) of France (representing the State of Design and the State of Manufacture of Aircraft 1); and
 - the National Transportation Safety Board (NTSB) of the United States of America (representing the State of Design and the State of Manufacture of Aircraft 2).
- (3) ICAO was also notified of this serious incident.

5. Investigation Progress

- (1) To date, the AAIA has:
- retrieved and analyzed the data from the onboard Digital Flight Data Recorder (DFDR) and Quick Access Recorder (QAR);
 - conducted interviews with the flight crews of the two aircraft involved;
 - interviewed the duty air traffic control personnel⁶;
 - collected ATC operational records, system footage and other supporting information, including safety actions already undertaken by ATC since this serious incident, as well as additional safety actions currently under consideration;
 - initiated a technical investigation of the relevant ACAS data; and
 - gathered other pertinent information from the operators, including takeoff performance calculation data.
- (2) As the investigation progresses, the AAIA will conduct detailed analysis with focus on:
- ATC operational procedures, including coordination among ATC units;
 - ATC control facilities and operational references;

⁶ Supplementary information was being requested by the AAIA from the ATC/CAD at the time of this Preliminary Report.

- recovery actions taken by the ATC and flight crews during the incident;
 - ATC-pilot communications;
 - human factors that may have influenced the event; and
 - Safety Management System.
- (3) The detailed analysis of the data and information collected will enable the investigation team to determine the circumstances, causes and contributing factors of this serious incident. It will also aid in identifying areas that need further investigation and/or lines of investigation to be pursued.

6. Public Notice

This Report also serves as a public notice under Regulation 10(1) of Cap. 448B. Any person who wishes to make representation as to the circumstances or causes of the serious incident should do so by letter, facsimile, telephone, or email to the Chief Inspector (Address: Air Accident Investigation Authority, Level G & 2, Facility Building, 1 Tung Fai Road, Hong Kong International Airport, Lantau, Hong Kong; Telephone: (+852) 2910 6079; Facsimile: (+852) 2910 6049 (local), (+852) 3912 4848 (international); or Email: ACCID@tlb.gov.hk within 14 days of this notice.

28 March 2025

SIU Kam-san, Andeon

Chief Inspector

About the Air Accident Investigation Authority

The AAIA is an independent investigation authority under the Transport and Logistics Bureau (TLB) of the Government of the Hong Kong Special Administrative Region of the People's Republic of China.

The AAIA is established in compliance with the Standards and Recommended Practices (SARPs) of ICAO Annex 13 requiring Contracting States to set up an independent investigation authority to ensure the independence and impartiality of the investigations.

The AAIA is responsible for the investigation of civil aircraft accidents and incidents in Hong Kong in accordance with the Hong Kong Civil Aviation (Investigation of Accidents) Regulations (Cap. 448B) and the SARPs of ICAO Annex 13.

The sole objective of the investigation shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability.

Check the AAIA website for information, reports and updates:

<https://www.tlb.gov.hk/aaia/eng/index.html>

The AAIA 24/7 Duty Investigator Hotline:

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**Fax: (+852) 2910 6049 (local)
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